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Clinical Medicine and Surgery

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UNIV. OF HAWAII

CLINICAL MEDICINE AND SURGERY

VOLUME 36 JANUARY, 1929 NUMBER 1

Dr. Hideyo Noguchi

THERE is a tendency in Europe and America, these days, to feel that we must look to the socalled Nordics for light upon the path that leads to progress. That this is not a sound generalization has been proved, again, by the life and work of a great Japanese scholar, scientist and lover of mankind.

Hideyo Noguchi, the son of Sayoske Kobiyama and Shika Noguchi, first saw the light in Inawashiro, Yama, Fukushima, Japan, November 24, 1876. He attended the public schools in his native land and, not content with the knowledge there obtained, he studied, under private tutors, the English, German, French and Chinese languages and literatures (how many of us ever learn any language, other than our own?), before entering the Imperial University at Tokyo, from which he was graduated as a Doctor of Medicine in 1897.

After his graduation he accepted a position as assistant in the Tokyo General Hospital for a year, following which he was attached to the Government Institute for Infectious Diseases for two years, during the latter of which he also served as quarantine officer at Yokohoma Harbor and physician in charge of the Central Hospital at New Chwang, China, under the International Sanitary Board. He also lectured on pathologic anatomy at the Tokyo Dental College.

Dr. Noguchi came to the United States in 1901, obtaining an appointment as assistant in pathology at the University of Pennsylvania. (His knowledge of English must have been decidedly more than rudimentary and academic, to enable him to hold such a position).

After two years of teaching, he was made a research assistant in the Carnegie Institution, where he worked for a year, until, in 1904, after spending some time in the Serotherapeutic Institute of Denmark, he began the association with the Rockefeller Institute for Medical Research, which lasted until his death. He was a member of the Institute from 1914 on.

To trace the romantic story of Noguchi's last twenty years is to follow the history of important researches in infectious diseases, the world over.

He was among the first, if not the first, to grow the spirochetes of syphilis in pure culture; he demonstrated, by animal inoculations (in 1911) the presence of the organisms of syphilis in the brain, in paresis, and in the spinal cord, in tabes, thus removing these, theretofore mysterious, diseases from the domain of speculation and superstition. His researches in syphilis in-

clude, also, the introduction of the *luetin test* and a modification (now known by his name) of the Wassermann reaction.

Studies of anterior poliomyelitis and of rabies led this indefatigable prober into the mysteries of disease to the discovery of the organisms of both of these terrible maladies. The production of a bacteria-free vaccine against smallpox was also his doing.

Among his most recent contributions to the science of Medicine were the discovery of the etiology of trachoma and a magnificent piece of work in South America, confirming the causative organism of *Oroya fever*, discovered by Barton, and announcing the blood-sucking, nocturnal gnat, *Phlebotomus noguchii* as the insect carrier of the disease.

Yellow fever had engaged his attention for ten years before his death, and he had pursued it all over South America and the isles of the Caribbean Sea. About 1921 he announced the *Leptospira icteroides* as the organism responsible for the disease and prepared a prophylactic vaccine and a curative serum.

His findings in this line were, however, vigorously attacked from many quarters, and it was to prove the truth or falsity of his position that he followed this "withering pain", from which he was striving to free the human race, to its last great stronghold, on the pestilential Gold Coast of British West Africa. Here, presumably protected by his vaccine, he set up his laboratory at Akkra and began his studies anew.

Unfortunately for the world and for Medicine, he had been mistaken in his conclusions about yellow fever (he had recognized his error some time before the end and had started other lines of investigation), and, while working with the deadly virus, he contracted the disease himself and, far from his home and kindred, his name was added to the lengthening list of martyrs to science and to human progress and happiness, on May 21, 1928.

Noguchi had received honorary degrees and decorations from many institutions of learning and from many countries, including Denmark, Sweden, France and Spain. His own native land gave him a titular professorship and the degree of Doctor of Philosophy, as well as other tokens of high esteem. He received a number of medals and awards from scientific societies in the United States.

Besides hundreds of contributions to the current periodical literature of Medicine and general science, Noguchi has left us a book on "Snake Venoms" (1909); "The Serum Diagnosis of Syphilis and the Luetin Reaction" (1910); and "The Laboratory Diagnosis of Syphilis" (1923).

All of the active and productive years of the life of this great research bacteriologist, savant and apostle of the pure science of Medicine were given to the search for methods of preventing and alleviating human suffering; and when, having given his tireless energies to this worthy enterprise, he finally laid down life itself in the same cause, he left the world owing him a debt which only the historians of the future will be able to estimate.

Death is not the worst thing in the world, and to help a man to a happy and useful career may be more of a service than the saving of life.—Dr. Francis W. Peabody.

Is The Health Audit All Bunk?

MEDICAL writers have had a great deal to say, of late, in periodicals of every degree, about the urgent, the vital necessity for periodic health examinations of apparently well persons, if we are to preserve our vitality as a nation and our individual tenure of physical existence. We have even taken a modest hand in urging the popularization of this procedure.

A proof of the fact that the medical profession and its opinions are still respected is furnished by the fact that thousands of people have taken this advice to heart and are requesting—nay, *demanding*—health audits. And, because a consider-

able majority of general practitioners look upon these demands as more or less of a joke, highly commercialized institutions are springing into existence to meet this demand and are making unwarrantable statements, with results which may not be wholly without danger.

In the *American Mercury* (that shooting gallery where "authorities" and popularly accepted ideas are the targets) for October, 1928, Dr. Logan Clendening empties a magazine of well-finished literary ammunition against the health audit, in such a manner as to tend to discredit the whole idea in the minds of the devoted disciples of H.L.M. Dr. Clendening is a wise man, who knows a lot about the care of ailing human beings, and some of the marks he shot at deserve to be knocked over—but not the whole health audit idea. Perhaps, in this case, he knew his editor and wrote with his tongue in his cheek.

There are two points to which he alludes casually but which, it seems to us, need more emphasis. The first is that the health audit should be made by the family physician, who knows the man and also his circumstances and antecedents; and the second is that, when the examination has been made, the examiner should use a large measure of sound judgment in deciding what and how much to tell the patient, in regard to what he finds.

Dr. Clendening deftly punches a hole in the balloon of those who compare the human body to an automobile or other piece of machinery by pointing out three points of basic difference: First, the machine can be taken apart, cleaned and adjusted, and put together again; Second, when a part of the mechanical engine becomes worn or broken, it can be replaced; and, third, the body is a *living* organism, with powers of automatic, compensatory adjustment to meet defects in structure or function.

Any good automobile mechanic can repair a car when it goes wrong; but the Public Health or Life Extension Institutes, run on the same principle, are inadequate to render an equivalent service to the human body. That sort of service requires *brains*, trained in the school of general practice to evaluate the human equation in all its aspects.

The commercial examining companies and some independent individuals who have been misled by sophistical reasoning, declare that these periodic examinations will prolong human life. That *may* be true, but it has yet to be proved, and many years of careful observation and collection of statistics will be required to determine whether any such effect will be produced. We are much safer when we tentatively suggest that they may be able to prolong the period of *productive activity* and add to the joy and comfort of living.

Many a man, who has been leading an active and satisfying life, has been converted into an introspective hypochondriac by being told that his blood pressure was 170. There may be instances where it is wise to give such detailed information to a patient (as the Institutes *always* do), but they are rare, and only the physician who *knows the man* is qualified to decide such a question.

Unless practical, *workable advice* can be given, whereby any abnormal conditions found can be corrected, there is no excuse at all for making periodic health audits; and the physician who would qualify as an examiner in this field should prepare himself also as a health *adviser*.

Dr. Clendening's article should not and, we believe, will not interfere with the development and increasing popularity of the health audit; but it should tend to restore to sanity some persons who seem to be verging on hysteria over the matter, put a crimp in the commercialization of a real public need and rouse a number of wise and capable general practitioners to a new line of duties and opportunities. If it does these things, in any measure, it will be well worth while.

A man too busy to take care of his health is like a mechanic too busy to take care of his tools. —Cicero.

Progress in the Science and Art of Medicine—1928

THE annual inventory, so universally adopted by business men, is a valuable procedure for all and sundry and can be applied to any of the affairs of life.

Every teacher appreciates the value, to the student, of periodic reviews of the matter which has been covered; not to present new material, but to refresh the memory regarding things already known, in order that they may be present in the consciousness in a readily available form.

This, then, is an inventory or review of what has been done in the field of Medicine and its allied sciences during the very recent past—not necessarily entirely in 1928, for these studies lap over from one year to another. Practically all of this information has been presented to our readers during the past year, and if mere reference to them does not bring them back to memory, it will be well to consult the files of this journal for the details of those matters which are of particular interest to individual physicians.

The leading articles in this number consist, largely, of reviews of the literature along special lines and of the presentation of relatively new ideas. The abstracts, also, are along the lines of newer developments. We hope it will be useful to every reader.

General Research

One of the most important pieces of research work now under way is of economic, rather than scientific, importance to the profession—the studies of the Committee on the **Cost of Medical Care,** which was organized in May, 1927, and is now well advanced upon its five-year program of investigation of all the agencies concerned in the care of the sick, including hospitals and clinics representing an investment of five billion dollars.

Of these studies, Dr. Olin West, secretary and general manager of the American Medical Association, remarked:

"The one great, outstanding problem before the medical profession today is that involved in the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them, in their respective stations in life."

The theory that leukocyte stimulation and phagocytosis are the major factors in immunity and the cure of infections has gained momentum during the year, but no proofs have been advanced that other factors are not also active.

Progress is being made in connection with the **bacteriophage,** but d'Herelle's ideas are by no means universally accepted, as yet.

Besredka's idea of vaccinating against bacterial diseases of the gastrointestinal tract by giving the **vaccines by mouth** has gained support from the work of Russell, of Madras, India, in connection with *cholera.* It appears that, except in dysentery, it is necessary to administer *ox bile,* prior to the vaccines, in order to obtain the best results.

Calmette's idea of administering attenuated, living tubercle bacilli, by mouth, to the infants of tuberculous parents, during the first few days of life, as a **prophylactic against tuberculosis,** has met with marked success in the hands of several investigators. It would seem that this procedure must be reckoned with in the future.

The Rockefeller Foundation has announced the fact that, just before sailing for Africa to engage in the studies of **yellow fever** which were terminated by his untimely death, Noguchi completed a study of **Oroya fever,** which resulted in the confirmation of *Batonella bacilliformis* as the causative organism and the identification of the varities of nocturnal, blood-

sucking gnats which transmit this fatal South American malady.

The isolation and identification of two separate fractions in the posterior lobe of the pituitary gland — one a pressor **("Vasopressin")** and the other an oxytocic substance **("Oxytocin")**—by Kamm and his associates, in the laboratory of Parke, Davis and Co., bids fair to have far-reaching effects in therapeutics.

In the field of endocrinology, Harrower is conducting some interesting studies (not yet published in their entirety), which tend to show that the action of liver extracts in high blood pressure is, not that of a depressor, but a *detoxicator,* destroying the guanidin bases which cause hypertension. Other results of his studies suggest that the hematopoietic liver extracts, now so widely and successfully used in pernicious anemia (which is now believed to be due to faulty blood *construction,* rather than to excessive destruction), may be useful in *secondary anemia,* also.

Another series of investigations, whose effects can scarcely be predicted at this time, has led to the conviction that **irradiated ergosterol** (Steenbock and Hess), if not actually the antirachitic vitamin D, is the precursor and the richest source of that substance. This preparation is many thousand times as potent, grain for grain, as is cod-liver oil, and its introduction on a commercial scale in the near future will revolutionize certain time-honored therapeutic measures.

Regarding *synthalin, glukhorment* and *myrtillin,* which were mentioned under this heading last year, as possible substitutes for insulin, it has been shown that myrtillin is unreliable in its action; synthalin is unduly toxic and relatively ineffective; while glukhorment may prove to be nothing but a guanidine compound, closely allied to synthalin.

The **cathode rays,** recently brought to our attention anew by W. B. Coolidge, and **Bucky's transition rays** (lying between the ultraviolet and the x-rays and sometimes called infra-roentgen rays) seem to carry inestimable possibilities for future biologic discoveries. The former are known to produce measurable biologic changes in seeds, yeasts, etc. The latter exert distinct effects upon certain types of malignant tumors and have been used with success in a variety of skin diseases. Both of these discoveries are probably still in their infancy.

Recent studies in the metabolism of *Cholesterol* are changing our ideas of certain cardiovascular, endocrine and other diseases. Some interesting work has been done with the *colloidal sulphides* of several heavy metals.

Diagnosis

A relatively new diagnositc procedure, **encephalography** (a roentgenologic study of the cranial contents, after injecting considerable quantities of air or halogenated oils into the spinal canal), now little known to the profession, may upset all our older concepts of such disease as epilepsy and the neuroses. Encephalograms indicate that, in many cases at least, these disorders are not purely functional (the older teaching), but show anatomic changes in the size and structure of the brain.

Medical photography is assuming a more and more commanding place in professional teaching, and is now supplemented by what we may have to call **medical phonography.** Phonograph records of normal and pathologic heart sounds have now been prepared, so that any physician can, in his own office, receive many of the benefits to be obtained by visiting a great cardiac clinic. This process seems to be capable of considerable extension, so as to cover all diagnostic signs which are recognized by the sense of hearing.

The use of **halogenated oils** (such as Lipiodol), in the roentgenologic examination of the body cavities is steadily widening. The urinary bladder, ureters, spinal canal, kidney pelves, uterus and Fallopian tubes and the bronchi are now regularly

studied in this manner, and it is beginning to be used to good purpose in the investigation of the nasal accessory sinuses. It seems probable that the forthcoming introduction of less viscous, **brominated oils** will increase the activity in this field.

The *Graham test* of the gall-bladder function is now a standard procedure in many hospitals, and will probably become more generally popular with the recent introduction of a safe, reliable and pleasant colloidal preparation of tetraiodophenolphthalein **(Cholecystocol)**, which gives excellent results after the administration of relatively small doses by *mouth*.

The use of filtered *ultraviolet rays* for the recognition of *ringworm infestations of hairs* is an interesting development discussed elsewhere in this issue. It had formerly been shown that the unfiltered rays could be used for the detection of the eruptions of the various exanthems, some hours or days before they became visible under ordinary light.

The employment of *roentgenography* and *fluoroscopy*, as adjuncts in diagnosis, is becoming more and more widespread and satisfactory. The development of compact types of apparatus, sold at a reasonable price, is bringing this valuable assistance into the private offices of many physicians, and improvement in technical processes is making such work more feasible for men with a minimum of special training in this line. There will, however, always be a place for the services of the expert roentgenologist.

General Therapeutics

Parenteral (injection) medication is steadily gaining in popularity and importance, as more physicians overcome their prejudices and inhibitions and learn to use drugs in this manner. The list of remedies now available for hypodermic, intramuscular and intravenous injection is a long one.

Especial activity has recently been shown in the commercial development of serums and vaccines. In addition to the well known products, which have now proved their value by years of successful results, we now have available an **antitoxin against rheumatic fever** (Small), an **erysipelas antitoxin**, a **measles antitoxin, antivenin** (an antitoxin against snake bite) and one or two others. **Bovine antitoxins** can now be purchased, for use upon those persons who are hypersensitive to horse serum.

In the endocrine field, two active preparations of parathyroid have been announced: **Parathormone (Lilly)**, which is available commercially, and *Paroidin*, developed by Hanson, of Faribault, Minn. These are powerful products and must be used with intelligence and discretion, as there is danger of producing *hypercalcemia*.

Efforts are being continued to free the diabetic patient from the annoyance and not wholly inconsiderable danger attending the injection of insulin several times daily. Several products have been placed upon the market for oral use. Some of these contain pancreas substance, alone or combined with other glandular extracts; one calls itself merely a "starch-splitting ferment, acting in an alkaline medium and producing metabolizable products from carbohydrates." What these will accomplish has yet to be ascertained with exactness.

Bismuth arsphenamine sulphonate **(Bismarsen)** has now taken a definite place in the treatment of syphilis and is constantly being used more widely.

The use of barbituric acid derivatives—barbital, **sodium barbital, Neonal,** etc.—as a preliminary to local or regional anesthesia with any of the derivatives of cocaine, has now been made a routine procedure in many hospitals.

Physical Therapy

Quantitative studies, rigidly controlled, are continuing the good work of placing physical therapeutic agents upon a sound and rational basis. Wild and exaggerated

claims of benefits from the use of physical measures are less frequently heard, but apparatus for this type of work is going into the offices of more and more physicians every year, and a higher percentage of them are learning to use these methods intelligently.

The impression seems to be growing that the benefits from *ultraviolet irradiation*—not only of foods, but also of the patients' bodies—are the result of the activation and subsequent absorption of the sterols present, especially ergosterol. Sonne, of the Finsen Institute, Copenhagen, has done impressive work along this line.

The photochemical studies, by Pacini and Crosley, suggest that there are points of similarity in the effects of infrared and ultraviolet rays. These findings may very possibly lead to important clinical developments at a later time.

Our attitude regarding the mechanism of the observed remedial effects of *diathermy* has undergone a change. We now no longer believe that the tissues immediately between the electrodes are heated to a high temperature, but are searching for an explanation along the lines of leukocyte stimulation, general, moderate heating of the blood mass, active hyperemia, etc. It is now accepted that diathermy treatments in pneumonia, unless begun during the first twenty-four hours of the disease, will not shorten the period of illness. They do, however, markedly reduce the mortality and add to the patient's comfort.

Galvanism is more frequently written and spoken about, and seems to be claiming a higher degree of interest from the profession, due, no doubt, to the wider dissemination of knowledge regarding this agency and greater intelligence in its use.

All branches of *radiology* are becoming clarified and simplified and the field of usefulness of radium and x-ray treatments, alone or combined with surgery, is emerging from the mists of empiricism.

All in all, the progress made in Medicine and its allied sciences during the past year has, we believe, been of great and permanent importance. Foundations have been laid for clinical and laboratory investigations which promise to have wide and astonishing results.

It is to be regretted that so small a percentage of physicians are interested in carrying on careful clinical research with the new remedies which are constantly being offered to the profession, but hope is entertained that such activities may be increased in the years to come.

The truth is not arbitrary nor a matter of opinion, but can be investigated, and he who earnestly searches for the truth will find it.—Gautama, the Buddha.

Influenza

ONCE more the country seems to be faced by a widespread epidemic of a rather severe type of acute respiratory infection which, for want of a better name, we call influenza, though by no means all cases—in many localities, relatively very few—are caused by the *Hemophilus influenzae* of Pheiffer. That name may, however, be as good as any, so long as we know what we are talking about.

If a satisfactory outcome of these cases is to be expected, therapeutic measures must be taken *early*, and these, of course, will be decided upon by the physician who sees each individual patient. A few general suggestions may not, however, be considered amiss.

These patients should be put to bed *the moment this malady is suspected*, and should be kept there *strictly*, until convalescence is well established, employing, meanwhile, every device for conserving energy and resistance, as those who suffer from influenza appear to be prostrated to a degree out of proportion to the symptoms.

The sick-room should be well ventilated and the air sufficiently moist, but precautions should be taken against chilling of the skin.

The diet should be light but nutritious, including abundance of fruit juices, milk,

alkaline drinks, and plenty of *carbohydrate* foods.

It is our opinion that the best results are likely to follow the early employment of such drugs (given parenterally) as will *stimulate the leukocytes.* Nuclein, Lactigen (sterile, fat-free milk) or the salts of the heavy metals, injected intramuscularly (especially the first-named), will generally accomplish this result; as will also the intravenous administration of sodium cacodylate, Metaphen, Armervenol, sodium salicylate with guaiacol, or some of the other products *put up in sterile ampules by reliable manufacturers.*

If *pneumonia* develops, a polyvalent, antibacterial serum should be given intravenously, if there is no time or opportunity for typing the organisms. If they can be typed, it is better to give the specific serum, in types I and II. Diathermy should also be used, if available.

More extensive and intensive efforts at *prophylaxis* should be made than ever before. Mixed vaccines, containing the ordinary respiratory tract invaders, including several types of pneumococci have been clearly shown to protect many people, and these should be used freely, in connection with all recognized hygienic measures for *maintaining body resistance.*

In the presence of an actual epidemic, it should be remembered that the disease is definitely infectious and, for the sake of the patient, as well as the others, all unnecessary visitors should be excluded from the sick-room. All respiratory discharges should be collected in paper napkins and promptly burned. The toilet of the mouth and nasopharynx is important. Gauze masks, worn by the patient and attendants, are probably helpful. All eating utensils used by the patient should be promptly boiled.

When convalescence begins, supportive and tonic treatment is of the utmost importance. For this purpose there are few remedies superior or even equal to intramuscular injections of the cacodylates of iron and strychnine, combined with glycerophosphates. To these may profitably be added daily doses of cod-liver oil and frequent general ultraviolet irradiations, if the apparatus for giving them is at hand.

This is merely a brief and sketchy outline of a plan of campaign against an enemy which has claimed hundreds of thousands of victims. The detailed tactics of the struggle must be worked out by the men on the field of battle, according to the conditions present. It is believed, however, that, if the procedures here suggested are made the basis of the general strategy, we shall be able to limit the ravages of this formidable invader and return most of the casualties to their normal health and activities.

There cannot be safe division of responsibility in diagnosis or in the treatment of a patient.—Dr. Charles P. Emerson.

Helpfulness and Encouragement

WE HEAR and use many words every day, yet few people spend much time and thought in figuring out just what they mean, in terms of life and activity.

Helpfulness is one of these words which is not sufficiently considered by most people. Would a mother who carried her child wherever he wanted to go, in order to save him the effort and the bumps which come with learning to walk, be properly considered a helpful parent? Probably not, by any thinking person, because we realize that the power of personal and self-directed locomotion is cheaply bought at the price of a few bruises and aching muscles.

And yet, the procedure of certain misguided parents, husbands, wives and loving friends follows so closely along these lines that, to a disinterested bystander, the fundamental differences, if any, are imperceptible.

No man can safely and wisely help another, directly, to determine what path in life he will travel. We can, with propriety, point out the advantages of certain

types of endeavor and the disadvantages of others, but every human soul should have, as a fundamental right, the privilege of determining the type and direction of his activities.

Once a choice has been made and a goal decided upon, we can (if we have the necessary knowledge and vision) make suggestions as to the shortest and pleasantest road to the chosen destination. We may even furnish the pilgrim, occasionally, with food, clothing or a night's lodging, but we have no right to attempt to transport him to what *we conceive* to be his goal, and this for two reasons: As no two men can stand in exactly the same place at the same time, they cannot have identical points of view, and hence no second person, no matter how well-meaning he may be, can be sure that he sees the very target at which the object of his solicitude is aiming, wherefore it would be presumptuous for him to attempt to interfere with that aim. Moreover, the value of a race consists not alone, and not chiefly, in *reaching the goal*, but in the power and exultation gained *in the running*.

We should, then, resolve that, when we would be helpful to another, it shall always be the kind of help needed and desired by the person to be helped, and not the sort of assistance which we feel he *ought* to desire. We may try, in an unofficious way, to broaden the man's outlook and clarify his perception of his own ambitions, but to force unwanted and misdirected cooperation upon him is an impertinence.

When an opportunity for helpfulness arises, too many of us are prone to spend precious hours in debating whether or not the man *deserves* help. This is futile and dangerous. If he had not earned the right to receive assistance, the opportunity for us to render it could not have arisen. His *need* is our *opportunity*, which we utilize or neglect at our peril.

In the last analysis, the only real help which one man can give another is his kindly and loving encouragement and direction in finding the way in which he can best *help himself*. The only really valuable thing which a father can give to his son is the ability to *stand alone*.

While encouragement may be considered as a valuable type of helpfulness, it is, however, a very special type, almost entirely devoid of dangerous possibilities, when administered wisely, and one which should be used much more widely than it is.

More people than the average person would believe go through life oppressed and hampered by a sense of incompetence, futility and failure—the well known "inferiority complex." A cordial word of merited praise, spoken to such a one, may be of far more value than a gift of money. Groundless flattery is enervating and destructive, but sincere congratulations upon any achievement or personal victory is a tonic whose power is appreciated by too few of us.

The question, "Who is my neighbor?", was answered by the Master in the telling of the story of the despised Samaritan, who saw and seized an opportunity which had been overlooked by two highly respected citizens; and the repetition of that immortal tale, today, leaves no intelligent person in doubt of the fact that *whoever needs our help* is our neighbor. How regularly and completely we *act* upon that knowledge is a fair measure of the degree of our civilization.

Remember, however, that if the Samaritan had offered his assistance, or even his companionship, to the traveler *before* he was set upon by the highwaymen, it would, in all probability, have been indignantly refused. *Need*, not proximity, makes neighbors. It may be helpful to recollect what type of persons are said to "rush in where angels fear to tread."

Encouragement is something other. By virtue of the common life which animates us, not only all men, but *all living things* (and what does not live?) are brethren. Whosoever *strives* should be encouraged: By congratulation and praise if he suc-

ceeds; by reassurance and comfort if he fails. None of us has yet reached the place where a word of approbation or sympathy ceases to matter.

Life, today, is so full of clamorous demands upon our time and strength and thought that it requires genuine zeal for the basic verities and rather unusual strength of purpose to pause long enough to determine what the really essential things are. The men who wrote words of wisdom in more leisurely ages— some of the authors who contributed to the Bible, the Emperor Marcus Aurelius, Thomas á Kempis and many others—have left us suggestions—sign posts along the way, if you please—at which we might do well to look, from time to time.

When, and only when, fifty-one percent of our citizens have developed the faculty of *discrimination* to the point where they can distinguish between what is important and what is unimportant; and sympathy and understanding sufficient to make them judge others only as they desire to be judged, will we have any right to call ourselves a civilized nation.

Think and Work

Nothing was ever finished which was not first *started;* nor was anything, no matter how well begun, ever brought to a successful conclusion except the start was followed by regular and persistent progress *in the right direction.*

Thought is the stuff of which beginnings are made. One must think of a thing before one can do it.

Work is the motive power which drives the mechanism of progress forward toward a far and glorious goal, of which we are, as yet, unable even to dream.

But the necessity for thought does not end when some great or small ideal has been conceived and the thinker has begun his journey toward it. Thought must be applied to *every day's* efforts, in order that they may be exerted in the right way. Moreover, the idea which started some particular line of activity was, in considerable part, the result of other thinking and work done in the past.

Thought and work are, then, the most essential ingredients in success and progress in any domain of life whatsoever, and the man who will sincerely and earnestly *think* about every task of every day, both before and after he has performed it, and *work* steadily, patiently, tirelessly, toward the realization of the ideals which his thinking has set before him, is certain to have a successful, profitable end, therefore,

A Happy New Year

LEADING ARTICLES

A New Skin Serum for the Treatment of Cutaneous Diseases*

(A Preliminary Report)

By Josef Franz Kapp, M.D., *New York, N. Y. and*
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THE product forming the subject of this communication is a non-bacterial serum, developed by Kapp, as the result of extended investigations concerning the processes underlying the phenomena of aging and degeneration of the human epithelium. Its nature, preparation and stimulating or revivifying effect upon the mitotic process in the epidermis were described in detail by Kapp in his first paper on the subject[1]. At that time, Kapp's chief interest was focussed on this property of his serum, which had been clearly established through numerous microscopic slides; and in the investigation of its therapeutic possibilities he experimented almost exclusively on aging skins which presumably no longer produced epithelial cells in any worth-while number. Partial reports of the results obtained were published by Kapp[1] and later by von Wedelstaedt[2], and they will be described in extenso in the American medical press in forthcoming articles by Kapp, and by Holzapfel[3] in the German medical press.

When it was found that the serum exerted, apparently as a by-effect, a definitely soothing influence in cases of pruritus senilis, it was brought home to us that its therapeutic possibilities might include a much wider field than we had theretofore supposed; namely, various dermatoses in which stimulation of the mitotic process might be a valuable therapeutic factor.

In order to secure a variety of cases and independent observations we agreed that Holzapfel should carry on his experiments in Berlin, quite separately from Kapp, who used the serum on his own cases in New York.

A preliminary tabulated and summarized account of our joint experiments to determine the therapeutic value of Kapp's serum is presented herewith. These experiments extended over the past year and a half, and while they appear to us of considerable interest, we realize that they are too limited in scope and number of cases to warrant reaching definite conclusions as to results or even the percentages of our partial or total successes.

The serum was prepared for us according to Kapp's directions, by the Institut August von Wassermann, Berlin, and supplied in ampules of 1 cc., with the addition (for obvious reasons) of some glycerine and phenol.†

At Holzapfel's suggestion the injections were made intramuscularly, and, after filling the syringe, a fresh needle was used for the injection, to prevent adhering fluid from coming into contact with the surface of the skin. This technic and desensitization by giving the first three injections within seventy-two hours, was found to eliminate

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1.—Kapp: An attempt to increase the lowered vitality of the aging epidermis. *Dermatol. Wchnschr.*, Leipzig, Vol. 84, No. 3.

2.—von Wedelstaedt: A new serum therapy of the aging skin. *Am. Med.*, Vol. 34, No. 5, May, 1928.

3.—Holzapfel: Skin regeneration and the skin serum novipithel. *Dermatol. Wchnschr.*, Vol. 87, No. 41, October 13, 1928.

†Earlier experience had shown us that the serum was also effective orally, when taken in keratin coated tablets containing, in addition to the serum (to compensate for possible hazards to which the serum might be subjected when passing through the digestive tract and to increase its efficacy), a hormone (ovarian or testicular substance) and small amounts of reduced iron and silica. To insure uniformity in our experiments, however, it was decided to use exclusively the ampoule form.

entirely all cutaneous or other untoward protein reactions, which had occasionally occurred after subcutaneous application and which, although perfectly harmless, sometimes inconvenienced the patient.

Since we were both entering upon a new field of therapeutic activity, with no previous experience whatsoever, of our own or others, to guide us, we made it a rule to subject to our treatment only cases which had not responded to the usual methods or in which the patient had given his consent after having been fully informed of what we intended to do. We were, of course, certain from the beginning that no harm could be done under any circumstances, as several thousands of injections already given by Kapp had convinced us that no untoward sequelae ever follow the administration of the serum.

In the following we give a tabulation of the results obtained, with some brief comments on the various cases we treated.

Name of disease	No. of Cases	Completely Healed	Improved	Unaltered	Retrogressed
1. Pruritus senilis	5	3	1	1	0
2. Pruritus of other origin	3	1	0	2	0
3. Eczema:					
a Madidans	15	4	4	6	1
b Crustosum	3	2	0	1	0
4. Ulcus cruris	7	5	1	1	0
5. Decubitus	3	2	0	1	0
6. Psoriasis	9	0	1	8	0
7. Rosacea	2	0	0	2	0
8. Alopecia seborrheica	8	0	3	5	0
9. Urticaria	2	0	0	2	0
10. Herpes Zoster	1	1	0	0	0
11. Pityriasis rosea	1	0	0	1	0
12. Ulcus rodens	2	0	0	2	0
13. Lichen ruber planus	1	0	1	0	0
14. Erythema nodosum	1	0	0	1	0
15. Scleroderma	1	0	1	0	0
16. Vitiligo	1	0	0	1	0
17. Leukoplakia oris	1	0	1	0	0
18. Healing wounds	5	5	0	0	0
	71	23	13	34	1

Comments

1 and 2. As pruritus often has no visible symptoms except the secondary effects of the constant scratching, the term "completely healed" here means the total and permanent termination of the itching, while "improved" signifies a substantial alleviation of this symptom.

3. In our cases of eczema we took particularly great care to select old and otherwise unamenable cases and to exclude all other treatments while the serum treatment was under way. Only in two cases of heavy crust formation we occasionally applied vaseline on the rhagades to alleviate pain and prevent secondary infection. But, as vaseline can hardly have a therapeutic effect on eczema, we feel that the serum was the factor exclusively responsible for the healing of both cases.

4. In all the crural ulcers, the healing tendency was very outspoken after the fifth or sixth injection. The normal skin pushed forward from the edges toward the center with more or less vigor. This process, however, was seldom evenly concentric. Usually we observed some parts pushing lozenge-shaped tentacles from the wall toward the ulcer, which, consequently, was partly covered with epidermis while other parts were still sloughing. In one case we observed small islets of epithelium forming amidst or near the border of the ulcer. These grew rapidly and eventually, by confluence, covered the whole area. Considering the fact that this widespread *crux medicorum* often resists the usual methods of treatment, we believe that the Kapp serum may open up a particularly promising avenue to definite results.

5. Of bed sores we had three cases under treatment, one of which healed completely after forty injections, after having proven stubborn under other treatments for over six months. In this frequent and serious complication of so many bedridden cases it would seem that the serum treatment is worth further tests.

6. Our psoriasis cases disappointed us greatly. Only one out of nine showed any response. In this case we were dealing with the first eruption of the disease in a young individual of 16 years who came under our treatment shortly after the first appearance of some annular scales on both elbows. After the first 20 injections all but one had cleared up. As this scale persisted even after the sixtieth injection, Kapp surren-

dered, having the grim satisfaction of learning, much later, that dieting, roentgen-rays and chrysarobin proved just as ineffective against the stubborn spot as had the serum. Of course, our hopes had not been very great in this case from the beginning.

7. Two cases of rosacea remained entirely unaffected, although only a few injections could be given as we soon lost sight of the patients.

8. In seborrheic alopecia our expectations had been naturally modest. We were therefore pleasantly surprised to register very distinct improvements in three cases, in growth as well as in the thickness of hair. This should encourage further experiments, covering also canities.

9. Both cases of urticaria were under observation only a few days, as they both healed swiftly before we could rightfully claim this result as being due to our treatment.

10. An unexpectedly good result was obtained in the one case of herpes zoster. Pain and high temperature subsided after the third day, when we had injected only three ampoules. On the fourth day the eruption was pale, and it had entirely disappeared on the fifth. Considering the ferocious onset of this zoster, which had spread within a few hours over the greater part of the left thorax and had led to a rise of the body temperature to 102° F., we believe that the quick termination should be credited to our serum treatment.

12. The two cases of rodent ulcer which we selected were both entirely local, with no participation of regional glands, and had been almost stationary for over a year. We thought serum treatment appropriate here, as we hold that the cells in such a case (as in most cases of actual cancer), although of an epithelial nature, represent a somewhat juvenile stage of the epithelial cell and never attain full maturity. We worked on the hypothesis that, should the serum lead to a new formation of the cells in the ulcer, it might do even more and carry the cells through all the stages of development to their final form, as it apparently does in the normal epidermis. After a treatment of 40 and 52 injections respectively, the two cases were finally excised, as they showed absolutely no change under the treatment, neither in one sense nor the other. This gave us an opportunity to examine the tissues histologically; they offered, however, nothing in particular, on examination under the microscope, as the most careful scrutiny did not disclose the slightest deviation from the usual picture found in such cases.

15. Our case of scleroderma, a big plaque of about three by four and a half inches, which occupied the middle of the neck, directly in front of the larynx, soon seemed to become softer and more pliable; after some 40 injections, small patches of seemingly normal skin spread like tentacles all through the bulk of the hard shield, thus breaking it up into numerous small nummular areas. This result should encourage further experimentation, considering the hitherto intractable character of the disease.

18. Of the five wounds treated with Kapp serum, four were uninfected and without particular interest, one was sloughing and showed unhealthy granulations. It had been treated with irrigations of chloramine solution for more than eight days without showing any tendency to improve; also silver nitrate had been applied several times. After the sixth injection the wound was clear of pus, the granulations grew and formed epithelial islets which soon ran together. After 14 injections, given within three weeks, firm scar tissue had entirely closed the wound.

While in our cases the percentage of complete healings (32.4%) does not seem overwhelming, it must be remembered that we were dealing, in most instances, with neglected, obstinate or otherwise unfavorable cases. The experienced dermatologist knows how difficult it is to obtain results under such conditions.

Briefly, we may state it as our belief that findings with the serum in the field of cosmetic dermatology substantiate Kapp's claim that it is an efficacious biologic remedy in senile or presenile decay of the skin (such as wrinkles, flabbiness, dryness, pigmentations and atrophy, heretofore largely the province of the mountebank) and that the preliminary results we have obtained in the various dermatoses treated establish the possible value of the serum, at least sufficiently to warrant further serious and thorough investigation of its merits on a large scale and by the best qualified men in our specialty.

Summary and Conclusions

1. The favorable by-effect on the itching of pruritus senilis when Kapp's serum was administered for its stimulating effect on mitosis in the aging skin, led to considera-

tion of its therapeutic value in certain dermatoses.

2. A tabular presentation and brief comments on 71 cases of various dermatoses are given.

3. The Kapp serum treatment was wholly or partially successful and of particular interest in eczema (madidans and crustosum), ulcus cruris, decubitus, alopecia seborrheica, herpes zoster, scleroderma and wounds. It was disappointing in psoriasis, rosacea and ulcus rodens.

4. While the experiments and the number of cases treated are insufficient to permit definite conclusions, the results obtained are sufficiently favorable to warrant further investigation on a large scale by qualified men.

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Progress in Dermatology

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ANY article bearing upon this subject must of necessity be either comprehensive and exhaustive, or it must be selective, in the sense that it reflects the writer's views and experiences. These may fall somewhat short of the point of many advances, for progress, in any domain, is stamped by more or less acceptance on the part of authorities of fresh ideas and new experiences which time has not yet established as being trustworthy. It is, therefore, considered more practicable and consequently more acceptable to the reader to receive brief statements, in commentary form, of the writer's own experiences and views on such progress.

In general, it may be stated that dermatology is making rapid strides as a special domain of medicine. This is due to the fact that physicians as a whole have given more respectful attention to the contributions of dermatologists, and also because numerous researches have been made in the dermatologic field by individuals who are not clinical dermatologists. Thus, through a double stroke of both active and passive growth, the specialty has come to occupy a more commanding attitude in the profession.

The skin is a highly important component of the body, and serves in many ways as an expression of the inner workings of the body mechanism, as well as being a great test organ of this mechanism. With renewed interest in this general relationship of the skin to the body in general, there has naturally developed a more pronounced tendency to study many of the diseases of unknown etiology, having cutaneous manifestations, from a broader standpoint. This type of study, therefore, points the way to progress. As indicated in a previous communication[1], we are turning back again to the days of viewing many of the dermatoses as, not purely skin affections, but as changes linked up with what has properly been termed cutaneous medicine.

Thus, indications point to a more intensive study of the patient in any attempt to investigate the cause of his skin disease. Dermatologists, as a consequence, are becoming more thorough and well-trained internists, in much the same manner as the socalled syphilologist is basically an internist.

The results of such reactions have as yet shown no very concrete or tangible advances, but the motive which lies behind many excellent contributions to dermatologic literature is certainly built around this growing tendency to view a problem, both etiologic and therapeutic, in a comprehensive sense. It indicates the direction of the wind of progress and all who are interested in this progress will probably agree that the foundation is sound. Naturally the domain of dermatology cannot be adequately covered in the space allotted, and the writer has perforce elected to discuss those subjects, especially the common dermatoses, in which any progress or any special points worth stressing have appeared, in his judgment, to merit mention.

Acne

The etiology of this commonplace disease has as yet not been clarified. Bacteriologic studies have revealed many interesting facts regarding the flora of the skin of acne patients, but most authorities still agree that

1.—Clin. Med. and Surg., 35:83-90, Feb., 1928.

the endocrinopathic conditions of the patient are closely associated with the eruption, which is essentially one of puberal onset. But why this dysfunction exists in certain individuals only, must be left for future investigation.

The treatment still remains symptomatic and palliative. Nothing has supplanted the roentgen rays as a palliative procedure, although there is growing opposition to their use. Medical measures should eventually solve this difficult problem; but to date there is no specific, and acne disappears spontaneously as a rule, at the age of thirty, or thereabouts.

Epithelioma

As yet no acceptable cause of epithelioma of the skin has been published.

There have been continued attempts to classify the malignancy of the different (2 or 3) types of epithelioma of the skin, from the standpoint of histology and of pathologic tissue reaction. Much interesting study has been contributed, and the substance of such study would appear to point to the fact that epithelioma of socalled benign or malignant type, merits radical treatment on account of possible and probable malignancy. Inasmuch as basal celled types are not always easily diagnosed clinically, and since biopsy may be as extensive as excision; and finally because intermediary forms—"basal-squamous" epithelioma—are very resistant to repeated treatments, it is still considered most advisable to operate in a comprehensive manner. This includes, of course, roentgen and radium therapy as adjuncts.

The choice of operation depends on the observer's experience. The electrodesiccation or endothermic methods have now become great favorites, especially in malignant disease of the mucous or muco-cutaneous structures. As yet, no compelling figures or statistics have appeared to warrant a choice of these electrothermic methods over the knife; but such reports and experiences as are available at present lend much weight to the evidence for preference of the newer methods.

Lupus Erythematosus

The strife regarding the tuberculous origin of this very interesting and disfiguring disease has, as yet, not been settled. Evidence of tuberculosis as a concomitant disease has accumulated; but valuable and reliable reports of complete absence of tuberculosis of joints, viscera, etc., in cases where the individual came to autopsy, leave the entire subject unsettled.

Therapeutic measures with **gold and sodium thiosulphate,** given intravenously, have scored an unqualified success, and at the same time have given a much more optimistic aspect to the entire field of treatment, heretofore beset with great and trying difficulties. The method and manner of dosage have, as yet, not been entirely concurred in by most dermatologists, but it is hoped that within a very short time this question will be established in much the same manner as that of the arsenical preparations in early syphilis. Indeed, the results of treatment are in many instances as striking as those of syphilitic therapy.

Urticaria

The specific factors of foods and of foreign proteins still hold the stage in the struggle to elucidate the causative factors of urticaria. Internists are always interested in this disease, and contributions from them still play a significant part in any progress in elucidation of the problem. The last word has, as yet, not been written, for there is still a fairly significant number of conditions in which urticaria appears, where proteins have not been satisfactorily found to be the presumptive cause of the eruption. Gall-bladder disease, endocrine and metabolic disturbances, drugs, neurotic and pyschogenic states, particularly in chronic types of this disease, are receiving renewed attention and consequently renewed interest.

From the therapeutic standpoint, not much headway has been made. Sedation of the organism as a whole, psychotherapy and more intensive application of symptomatic and palliative measures are coming more into the foreground. Specific drugs have received a new addition; namely, the *ephedrine* compounds, but, in the main, the use of them has not been universally convincing.

The Neurodermatoses (Lichen Simplex Chronicus; Neurodermatitis)

The nervous manifestations in the cutaneous structures are receiving renewed and deserved attention on the part of investigators. Happily, this group of important diseases is gradually becoming eliminated from the socalled "scrap-heap"—eczema—and is becoming classified primarily from a clinical standpoint. With careful

attention to anamnestic factors, one can usually determine that itching has preceded the eruption and that the lesions result from trauma—rubbing or scratching on the part of the patient. (This group must of course, for the present, be carefully separated from the prurigo group). The localization on or near the nucha, the flanks, thighs, elbow and knee creases, perianal region and sometimes on extensor aspects of the extremities is considered characteristic.

The etiologic factors have, as yet, been most unsatisfactory. Researches in nerve distribution have failed, in disappointing fashion, to give any clue to a probable elective distribution of the lesions. Trauma (such as irritating substances or applications of cosmetics) has been considered of some significance in this connection; but such evidence, in my experience, has been of little importance. In the majority of instances, however, a definite history of neurotic or of psychopathic states in the patient can be elicited, and it thus becomes a problem of painstaking investigation. To these may be added physiologic states (dysmenorrhea and other menstrual disorders, menopause, etc.). I have met with these conditions, consequently, chiefly in women past the age of adolescence. It may be appreciated at once that the problem becomes, besides a social one, an internal medical survey; indeed it may necessitate the services also of a phychiatrist as I have found in several instances—particularly in several men—in whom the symptoms of pruritus antedated a traumatic eruption produced in the groins, on the scrotum or in the perianal regions.

The therapeutic indications are seen at once to be palliative, and subsequently symptomatic. The part played by foreign proteins has, in my experience, not been so pertinent as some authors have indicated. The local measures are unsatisfactory, to a certain degree. Even roentgentherapy has, in some instances, been disappointing, on account of recurrence of the eruption. In the main, however, this offers most hope, together with assurance of the interest of the physician and, in many instances, cure has been complete and lasting.

Pityriasis Rosea

Nothing essentially new has been added to the conception of the etiology of this important disease—important from the standpoint of diagnosis, on account of its possible confusion with the roseola of syphilis. Indeed, I have taken the attitude that assurance of diagnosis, for the patient, is sufficient, because the disease is self-limited (average duration five weeks) and treatment needs merely to be palliative.

However, mention should be made that experimental evidence has been accumulating to make it very suggestive that pityriasis rosea is probably an infectious disease; and on account of its clinical course—"herald (or mother) patch", with subsequent characteristic eruption, running a definite course of remission, as if by lysis—it may be reckoned as belonging to the group of acute exanthems. Usually there is immunity, although recurrences (?) have been recorded. Despite occasional references to prodromal symptoms of moderate intensity—malaise, focal infection (tonsils)—I have rarely found these, as the result of careful history taking. Thus the unknown etiology of this disease makes still another call upon our internal medical activities for renewed search.

The therapeutic advances have likewise been disappointing. No specific treatment has been evolved which may shorten or actually abort the course of the eruption, unless credence and confidence are given to the use of ultraviolet irradiation, which undoubtedly has a pronounced effect upon the eruption, just as it has in certain other diseases, especially in the rare para-psoriasis group.

Until something more striking as a therapeutic agent is forthcoming, the handling of these conditions will still remain, first, in assurance of diagnosis (with a word on good prognosis and immunity to recurrence), and second, in the employment of palliative and, if need be, symptomatic remedies.

Psoriasis

The pessimistic statement of a distinguished German dermatologist, made in the not-too-distant past, at a medical congress, still holds: *Was Psoriasis ist, kennt noch niemand*—literally, "What psoriasis is, nobody as yet knows."

It would be useless and impracticable to rehearse the newer theories of the cause of this commonplace, annoying and still mysterious disease. Any dispassionate discussion of such theories leads one into a circle of statements, all of which may be

borne out by a certain degree of experience, but all, as yet, not receiving the properly qualified consensus of approving conviction.

Much time and interest have been expended, both from the clinical and from the experimental aspects, in an attempt to clarify the causes of this baffling disease. I have become more impressed, with the advantage of renewed experience, that psoriasis is a disease which, like syphilis and the exanthems, deserve a more intensive study from the standpoint of the internist, because it is well known that the malady occurs chiefly in patients ordinarily in good health.

The complications commonly met with are varied and, indeed, sometimes manifold (focal infection, arthritis, endocrinopathic, neurotic and psychogenic states, gastrointestinal disturbances, metabolic changes in general, etc.), and these, unfortunately, have been looked upon by many observers as causative agents in the disease. It may be somewhat presumptuous to make the statement, but I am becoming rather inclined to the opinion, based merely on experience and with absolutely no proofs, that psoriasis is a disease of metabolic disturbance, caused by a number of agents acting upon the skin of a potentially susceptible person. That is to say, that every "psoriatic" has a peculiar diathesis or idiosyncrasy which, under certain conditions, causes his eruption to appear; and that this tendency will persist so long as the inherent or hereditary factors which assure potentiality ("sensitization") exist, and whenever the above mentioned complications can act as exciting factors ("precipitation").

As for progress in treatment, it may be stated at once that the same attitude holds here as for etiologic progress. It may not be beyond the scope of this communication to call attention to a few of the methods which have been successful; but it should be stated, with reservations, that, in practically every instance, the authors of therapeutic measures have not convincingly demonstrated that eventually psoriasis *may not recur*.

The much heralded autohemic or autosero-therapy still has its advocates and, in some selected cases, still gives fairly satisfactory results. Combined or not with this method, the restricted (nitrogen-protein-purin-free) diet regime also gives impressive success. Nonspecific protein therapy, done with vegetable and especially bacterial products (vaccines), undoubtedly must be given some place of importance in this field.

Local remedies are so numerous that the mention of them would take us much beyond the space alloted. It may be stated, however, that much to the discredit of dermatologic therapeutics, these drugs have been recommended in such varying concentrations, chiefly in combination with the above mentioned procedures, that the average critical reader would certainly not become assured or convinced of their merits.

Intravenous medication with arsenic (arsphenamines), and with gold preparations and the use of drugs by mouth (gold bromide and chloride) have received some attention recently but, in my experience, they must be evaluated, at present, as are the other drugs for which partial success only may be claimed.

Of the phototherapeutic methods, much attention has been given to ultraviolet irradiation. Experiences on the part of many have shown so much variation—from success to failure—as to leave this method still *sub judice*. Roentgen therapy, nevertheless, has given and still gives a convincing response, and when used in selected cases is certainly the method of choice for many and obvious reasons.

Finally one may always ask the question of recurrence of the disease, after brilliant results, and he can usually become satisfied that the method is not the ultimate answer.

Ringworm of the Skin

The time-honored term *tinea*, qualified by location (capitis, pedis, etc.), and *eczema marginatum* (ringworm infection of the scrotum, groins, thighs or perineum), are gradually giving way to other designations, such as dermatomycosis, dermatophytosis, epidermophytosis, trichophytosis (where hair structures are involved), etc. Such transition naturally gives rise to considerable discussion, but it is hoped that the question will not reach the stage of polemics. Actually there is a most friendly attitude toward adopting promptly a nomenclature satisfactory to everyone interested in the subject.

The etiologic factors of this common disease of the skin are becoming established. More and more types of organisms are coming to light every year—an eloquent testi-

monial to more careful and exact bacteriologic research. The happy aspect and corollary of this research lies in the clarification of the etiology of many conditions, clinically of the type of socalled eczema, occuring on various portions of the integument, which type may now be separated from a group of skin diseases of as yet unknown or undetermined etiology.

It thus remains for a more intensive and careful classification of these bacteriologic findings to bring better order out of a quasi-chaos; and the future offers promise of success. Thus, the large group of eczemas, formerly considered to represent approximately one-third of all common diseases of the skin, will, through this newer light and through the classification of several other dermatoses, now removed from the same group, gradually represent a much smaller percentage. The pendulum, as expected, has swung too widely. In fact, many clinicians are now ready to agree that practically every dermatosis on the groins or perineum, in the axilla and on feet (toes) and even the hands, is of mycotic origin. This suggests the necessity for exercising caution and the suggestion that diagnosis should be established only by the finding of the parasitic agent, in every case—a procedure just as important as the confirmation of an apparent anemia by means of proper and well executed counting of the blood cells.

The advances in therapy, while satisfactory on the whole, have not been universally specific. For a number of years the employment of keratolytics (salicylic acid, benzoic acid), of antiseptics (mercurial preparations and derivatives, chrysophanic acid and related agents, iodine, dyes, potassium permanganate, etc.) and of stimulating agents (notably the roentgen-ray and ultra-violet irradiations), has held sway, with varying success. In fact, newer preparations or modifications of time-worn agents have come repeatedly to the front, only to meet with partial acceptance as "sure cures" of dermatophytosis.

It may, therefore, appear to be heresy to state that, to date, I am unaware of a real specific in the treatment of this disease. The reason for disappointment on the part of the average practitioner probably lies in the fact that each case of the infection is particularly individual, on account of skin susceptibility to drugs applied, and especially on account of the location of the disease (groins, scrotum, perineum, feet) and the commonly met with dermatitis and infection, which complicate and mask the characteristics of the original trouble. Consequently treatment here must frequently be expectant.

After all, the rationale of therapy is; first, destruction of the parasite and, second, replacement of diseased tissues. Theoretically a surgical removal of affected skin—curettage—should serve the purpose. How practicable this may be is open to discussion and, of course, to trial or experiment on the human subject.

From the clinical aspect, a newer conception, not altogether accepted however, has arisen with regard to complications of certain types of ringworm infection, especially where the hairy portions are affected or where deeply-seated infection exists. Reference is made to small papular eruptions on the trunk (in particular), and to papulo-vesicular patchy lesions on the hands and on the fingers. Some authors elect to classify these lesions as *trichophitids*, due, possibly, to concurrent infection on other areas with the trichophyton type of parasite or fungus. Furthermore, mention is made of microsporides, associated with microsporon infection, and of dermatophytids, associated with other types of fungus which produce a dermatrophytosis. On the feet, the hands and even on the trunk, the dermatophytids appear as a papulo-vesicular eruption.

Eruptions Produced by Drugs

This group of skin manifestations warrants a more prominent place than heretofore, because the recognition of eruptions associated with or produced through the ingestion of drugs has become more general.

It may appear to be somewhat dogmatic to state that one drug may produce variants of clinical pictures, just as many drugs may produce the same kind of changes. The bromides and the iodides can produce granulomata, as well as papulo-pustules; the phenolphthalein-containing drugs may produce dermatitis, as well as definite macular lesions; and the barbituric acid derivatives may produce urticaria, as well as macular and papular lesions. Theoretically, it has become something of a matter of importance to "run down" the offending drug, rather than to make the diagnosis (of the drug) from the character or type of eruption. Thus, history-taking has come to play an astonishingly significant part in many

eruptions, generalized or not, where the expert's opinion regarding etiologic factors is hard pressed.

Finally, an established etiology demands the rationale of proper therapy. Progress has been made in bromide and iodide eruptions, with reference to flushing the body with physiologic salt solution; also in arsenical and other metallic poisonings, with reference to the use of *sodium thiosulphate*. Since the results of such procedures have been most gratifying, it may be hoped that other specific means will come to our aid from the chemical and pharmacologic fields, which will neutralize the toxic effects of many other drugs.

Eczema

Perhaps the chief points in any progress in this socalled "scrap-heap" of the dermatoses have been contributed along the lines of etiology, with a view to removing certain types of skin diseases from this group after finding the causative agent (such as ringworm infection, eruptions due to specific agents, chemical or physical, and having the exact characters of socalled eczema) and after noting certain characters of patch-formation, together with linchenification, as in the neurodermatoses.

As a corollary to these conceptions appears the equally important aspect of the underlying principles of the origin of eczema. Research has become more convincing of the fact that eczema is a sensitization phenomenon, produced by an inherent, hereditary, metabolic or some other internal tendency (sensitization) and an exciting or precipitating agent of external type, (precipitation); thus an inter-play of internal and external factors.

As has been discussed in my previous article in this journal,* the difference between eczema and any other form of dermatitis produced by external agents, lies only in the fact of non-specific and specific sensitization, as well as non-specific and specific excitation. The individual susceptible to primrose or to ivy eruptions is specifically sensitive and specially reactive (to primrose or to ivy); whereas the "*ekzematiker*" is primarily sensitive (not always determinable, however) and reacts to almost any precipitating agent or irritant. This is, admittedly, a somewhat dogmatic explanation of the situation, but it is given nevertheless, as a short-cut method of clarifying the numerous difficult and unsatisfactory conceptions of the phenomenon of eczema, and it indicates, in a broad and perhaps inadequate way, the concept of many writers who attempt to explain this mysterious reaction of the skin. It has even occured, in the experience of some, that a specific sensitiveness—primrose, ivy or oak dermatitis—may eventually become non-specific: the individual may react to almost any irritant, thus eventually becoming an "*ekzematiker*." Why this phenomenon occurs, however, must be left for future speculation and investigation.

As a consequence, advancement in therapy of this very common and annoying disease of the skin must be carried on along lines of a rationale which takes into consideration the underlying factors which are concerned in the mechanism of the origin of the lesions on the skin; but progress has been either slow or empiric. Perhaps the most hopeful local agent, used together with palliative and symptomatic measures, has been the roentgen-ray.

This disease is certainly one which bespeaks the closest and most sympathetic interest of the internist. Even though diagnosis is a simple matter, the question of treatment is usually very complicated. Nevertheless, dermatologists are turning more to any avenue of study of the *individual*, rather than to a study of the eruption, in an attempt to find a good clue to treatment. Progress has been made through more intensive laboratory investigations, along the lines especially of blood chemistry, of skin sensitiveness, and of immunologic studies. With the help of biochemical and even physiochemical methods much help can be expected.

Dermatitis of External Origin

Chemical and physical factors are becoming more and more recognized as the causes of many eruptions formerly classified in the group of eczema. Whereas the clinical picture is identical, the mechanism of origin of the eruption has become more clear-cut, from the standpoint of specific sensitization and of specific excitation. A host of agents in the common, every-day contacts of the individual have been revealed as factors of excitation.

It would take too much space to enumerate these factors, but mention may be made of fur dyes, cosmetics (perfumes, polishes, hair lotions, powders, etc.), plants (weeds),

*Clin. Med. and Surg., Feb., 1927, p. 99.

dyes in clothing, chemicals in various industries, oils, grease, inks, etc., to mention a few.

Thus it remains merely a case of "good detective work" on the part of the physician to determine the causative agent in this type of dermatitis and, as a sequel, to institute rational therapy.

Laboratory Methods

This sketchy commentary on progress in skin diseases would be inadequate without some mention of certain lines of investigation which, despite the fact that no final verdict has been reached, bid fair to shed some light on the newer conceptions of the dermatoses.

First, the studies of filterable viruses in connection with neoplasms (verrucas, molluscum contagiosum); herpes zoster; and even in diseases of completely obscure etiology such as pemphigus, psoriasis, etc., are very impressive. The individual cell reaction, both from a morphologic and a bacteriologic standpoint, may eventually revolutionize all our previous concepts of the pathology of the dermatoses. Some writers have even gone so far as to attempt to explain the pathologic changes on biologic grounds. This type of concept is attractive and, if carried out with proper precautions regarding facts and logic, may lead to very interesting revelations.

The use of the skin as an indicator of immunologic phenomena or of sensitivity, in relation to various agents, is too well known to comment upon in detail; but such studies as are now being made must unquestionably become productive of genuine advancement in our modest and incomplete concepts of the cause or underlying factors of many clinically well known dermatoses.

As for bacteriologic studies, too much importance cannot be given. The history of what the microscope has done; what refined and painstaking methods of culture and of morphologic study, have accomplished (especially in fungous and in yeast infections); what physiochemical methods may do, all point to unqualified progress and stimulate the hope that the cause of some dermatoses of hitherto unknown etiology may yet be brought to light through microscopic and ultra-microscopic methods.

Nor must the importance of pharmacologic methods be denied or repudiated. There is apparently a vast field for investigation by these means, which as yet has not been touched. I am inclined to the belief that, although the pathologic aspects of most of the dermatoses have enjoyed almost the last word (except in neuro-pathology) the biologic features still demand very considerable attention; and this may come through pharmacologic procedures.

Physical Agents in Therapy

Any advancement in roentgen therapy, radium therapy, electrocoagulation and desiccation (endothermy), light irradiations (ultraviolet, infrared), solid carbon dioxide, liquid air, electrolysis, etc., has not been of great moment or of striking value.

At present it would appear that these standard methods are partly on trial and are actually undergoing the experience of refinement in order to evaluate their worth. Unquestionably they all have their selective field; and indeed their application is receiving a most generous trial in many conditions hitherto not handled by such means.

1010 St. Paul Street.

"Servicing" the Human Machine

SERVICE, as a verb, may be archaic, but the manufacturers of automobiles and other complicated machines and apparatus have taught people to expect that these will be "serviced."

"Servicing" the human machine is not, unfortunately, so well established, as yet; the idea possesses equal merit, but in order to succeed, it needs to be "sold" to the people.

—Notes and Abstracts (J. & J.)

Notes from the Southern Medical Association

Reported by GEORGE B. LAKE, M.D., *Chicago*

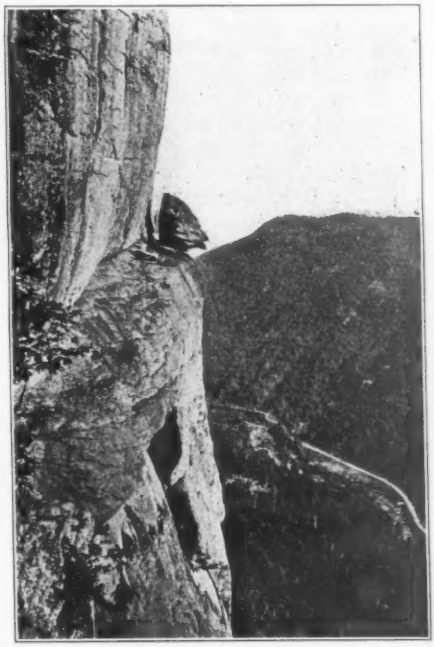
THERE is something about hills that makes one feel different. The air, a few thousand feet up, acquires a new flavor. It makes a man want to throw out his chest and take in as much of it as he can. That is one reason why this year's meeting of the Southern Medical Association, in October, was voted a large success by the members who attended it.

Blue Ridge Mountains Near Asheville

Asheville, North Carolina, is 2,500 feet up in the air, and within sight of it, on a clear day, are a hundred mountains a mile or more high, including a dozen or so (Mt. Mitchell, over 6,700 feet to the top and the highest point east of the Rockies, is one) which raise their summits more than 6,000 feet. Perched in this eyrie in the Blue Ridge, they call it "The Land of the Sky." It sounds reasonable when one is there.

The golfers had a wonderful time, and so did the ladies, if one can judge from casual remarks. The trip to Chimney Rock was worth making a real effort to take, and the view of Mount Pisgah against the crimson West, seen from Sunset Mountain, is something to remember. It is regrettable that the Interstate Postgraduate Assembly, at Atlanta last month, reduced the attendance below the usual figure (about 1,300 physicians registered), for it was a fine meeting, in spite of the rather crowded

Cliff Dwellers at Chimney Rock



Devil's Head Near Chimney Rock

condition of the hotels and the fact that the exhibits and the sessions were held in a new and unfinished building which was very dusty. The general sessions were conducted in the city auditorium (which is also the Kieth theater).

EXHIBITS AND BUSINESS

The scientific exhibit was not so large as last year, but was interesting. The U. S. Public Health Service showed, by charts and pictures, that *tularemia* has occurred in

all but the seven northeastern states and Washington. There have been 120 reported cases in Kentucky. The disease is transmitted by the bite of the horse-fly (*Chrysops discalis*) and the wood-tick, as well as by handling infected rabbits and other small animals.

The use of halogenated oil (*Lipiodol*) in the diagnosis of pathologic conditions in the nasal accessory sinuses was well shown by a considerable collection of excellent roentgenograms of the various sinuses, after injection with the oil, presented by Dr. C. H. Heacock, of the Polyclinic, Memphis, Tennessee.

Several groups of photographs showed dermatologic conditions in an instructive manner. Dr. Bedford Shelmire, of San Antonio, presented skin conditions occurring about the mouth and lips; Dr. George M. MacKee, of New York, had several score of pictures illustrating tuberculosis of the skin and modern ideas regarding eczema; and Dr. Oswald Denny was there from the National Leprosarium, at Carville, La., with his inimitable collection of color photographs of the various phases of leprosy.

Dr. Thomas W. Moore, of Huntington, W. Va., President of the Southern Medical Association

The commercial exhibits were not so numerous as they are at some of the meetings, but were widely representative and interesting. Among the newer things shown were the Wooding *pneumothorax apparatus*, comprising, in one moderate-sized carrying case, everything needed for the performance of this increasingly important operation; *quinsy punches* and spreaders of the St. Clair Thompson and Heidelberg types (very useful things for the practitioner); a small, simple *breast pump*, operated from the water faucet and so arranged that the force of the negative pressure can be easily regulated by the pressure of the thumb on a valve; an *internal pelvimeter*, by means of which the internal conjugate diameter of the pelvis can be readily determined; and a new type of *tonsil snare*, where the wire carries a high-frequency cutting electric current which leaves a clean, seared, bloodless wound. An apparatus along similar lines is being used for the removal of hemorrhoids.

At the annual business meeting, Dr. Thomas W. Moore, of Huntington, West Va., was elected president of the Association for the ensuing year, and Drs. Paul H. Ringer, Asheville, and E. C. Ellett, State Health Officer of Mississippi, were chosen as first and second vice-presidents, respectively. Miami, Fla., was selected as the meeting place for 1929, and the important decision was made to reduce the length of the meeting to three days — Wednesday, Thursday and Friday of the designated week.

The Technical Sessions

As usual, the first two days were devoted largely to clinical and didactic presentations, made by the physicians of Asheville and visiting celebrities, before general sessions and without discussion. This was followed by two days of meetings in specialistic sections, where the discussion of some of the papers read was very spirited and enlightening.

The Doctor and the Changing Order

By Dr. George E. Vincent, President of the Rockefeller Foundation.

The transformations which have remade the modern world of science and industry have given us a new social fabric, with new aims and methods. The tendency to specialization, in all lines, has increased enormously in the last ten years, and will probably continue to grow greater.

Mission Hospital, Asheville, N. C.

In medicine, specialists are becoming more numerous and group practice seems to be the order of the day. Organized Medicine is *coming*, just as chain stores and other economic aggregations have come. These things may be dangerous (nobody knows, as yet), but they now appear to be inevitable.

Society is demanding and will demand more and more of Medicine, and these demands may be stated as three:

1.—That the medical profession be more efficiently and effectively organized;

2.—That the cost of medical service be more equitably distributed, so that all may receive the benefits of modern scientific discoveries;

3.—That more attention be given to the study and practice of preventive medicine.

There is much concern as to what will become of the general practitioner in this new order. He is invaluable to the community and serious efforts should be made to see that the close personal interest and sympathetic understanding which he gives his patients should not be lost to our people. Perhaps he will develop a new field for himself as a personal and family health adviser —a preventer of disease and a prolonger of active and useful life.

Indications for Collapse Therapy in Pulmonary Tuberculosis

By Dr. Paul H. Ringer, Asheville, N. C.

Surgical collapse of the diseased lung ameliorates or cures two-thirds of selected cases of advanced pulmonary tuberculosis. These measures include artificial pneumothorax, phrenicotomy, phrenicoexeresis and thoracoplasty. To these may be added the cutting of intrapleural adhesions with a cautery knife, through a thoracoscope. The object of all these procedures is to *put the diseased lung at rest.*

The indications for this type of treatment are:

1.—Chronic, productive, fibroid cases, where the disease is mainly unilateral. In these, surgery is especially useful.

2.—Exudative, acute, febrile, toxic cases, when carefully selected. In these pneumothorax may be tried, but the results are not very reliable.

3.—In cases of profuse or repeated *hemoptysis,* pneumothorax may be tried, if practicable.

4.—In tuberculous empyema, after aspiration and irrigations have failed, thoracoplasty frequently offers the only hope of relief.

The chest surgeon must know the anatomy, physiology and mechanics of the chest very thoroughly; and the internist and practitioner should know more of the powers and uses of surgical measures.

The condition of the contralateral (sound or relatively sound) lung is of great importance and often decides the type and extent of surgical intervention to be practiced. These cases are rarely entirely clear and require intensive study, including the use of x-rays, to determine the exact amount of involvement present. If the disease is actually progressing and spreading to the other lung, surgery is contraindicated.

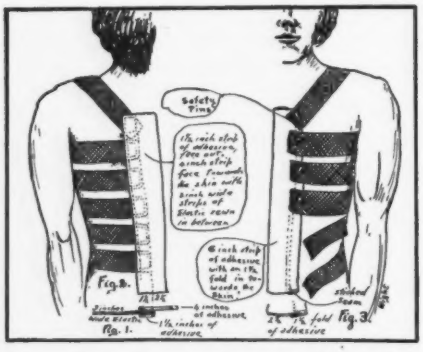
Compressive Dressing for Thoracoplasty

By Dr. W. P. Herbert, Asheville, N. C.

After thoracoplasty it is essential to apply a dressing which will compress the wall of the chest and maintain the collapse of the lung. These patients are always in rather poor condition and generally are more or less shocked by the extensive operation, and the annoyance and discomfort or actual pain attending the repeated application and removal of adhesive plaster dressings may well be an important factor in reducing resistance and determining an unfavorable outcome.

A dressing has been devised in which a minimum amount of adhesive is attached to the skin, and this need not be removed in changing dressings for a period of days or even a week or more. Compression is secured by a number of wide strips of heavy, non-adhesive elastic tape.

A strip of adhesive is cut, 4 inches wide and long enough to extend from the first



or second dorsal spine to the lumbar region (about 18 to 20 inches). Strips of elastic tape about 3 inches wide and long enough, when stretched, to encircle half of the chest are then attached at right angles to the adhesive, the ends overlapping its edge about 1 to 1 1/2 inches, the tapes being separated about one inch from each other. Another elastic tape is attached at the top, at an angle of about 45°, to serve as a shoulder strap. A piece of adhesive, 1 1/2 inches wide and the same length as the wider piece, is placed over the ends of the elastic tapes, the two adhesive surfaces being together, and is stitched to the wider strip, lengthwise, with a sewing machine, the seams passing through the ends of the elastic tapes and holding them firmly, leaving an adhesive surface 2 1/2 inches wide. This arrangement is shown in Fig. 1.

The front part of the dressing is made by cutting a strip of adhesive as long as the first one and 5 1/2 inches wide, and then folding over 1 1/2 inches, longitudinally, so as to form a non-adhesive flap.

In applying the dressing, the posterior part is firmly attached to the skin of the back, distal to the spines of the vertebrae, from the first or second dorsal spine down to a point below the lower end of the incision, with the adhesive tapes toward the operated side. The anterior strip is similarly applied in front, over the sternum and epigastrium, with the non-adhesive flap toward the operated side.

When the operation is completed, dressings are applied, as usual, and held in place by the elastic tapes which are brought around the chest with any desired degree of tension and fastened to the non-adhesive flap of the anterior strip by means of safety pins. In redressing the wound, the pins are removed, the elastic tapes laid back, the dressings changed, and the tapes repinned as in the first instance.

Figs. 2 and 3 show posterior and anterior views, respectively, of this dressing in place on the chest.

Precocity

Cases Presented by Dr. Lewis W. Elias, Asheville, N. C.

Case 1.—Female child, white, age 3 years 9 months. Parents are normal persons (rather ignorant mountaineers) and no history bearing upon the condition can be elicited. No laboratory work except roentgenography has been done, as the family is superstitious about hospitals.

At birth this child weighed 6 1/2 pounds and at 9 months *45 pounds*. She walked at 18 months and began to talk at 2 years. Her present weight is *125 pounds* and her height 3 feet 11 inches. Her body, especially the thighs, is overlaid with pads of fat. The degree of ossification of the epiphyses is that of a child of 7 years. Her psychic status is that proper to her chronologic age.

This is probably a case of *thyro-pituitary deficiency*.

Case 2.—Female child, colored, age 9 years. Her immediate relatives are all dead, so that no family history is obtainable and the personal history is fragmentary.

At the age of 2 years the patient began to menstruate and her breasts began to develop. She now menstruates regularly, her breasts are large and pendulous and she has a full suit of pubic and axillary hair, giving her the physical appearance of a woman 20 or more years old. She is mentally dull and docile and her relatives state that after exercise or emotional excitement she develops a very powerful body odor. There are moderate pads of fat on her hips, her clitoris is not enlarged and she shows no evidences of sex desire.

This is probably a case of *hyperpinealism*.

Minor Thyroid Deficiency in Adults

By Dr. A. B. Craddock, Asheville, N. C.

Minor degrees of hypothyroidism are rather common in adults and are generally diagnosed as obesity, neurasthenia, psychasthenia or just plain laziness.

The condition is five times as common in women as in men and usually appears after the menopause. There may be some of the signs of myxedema, but they are not marked. Symptoms of disease of the biliary system are rather common and there is increased susceptibility to infections.

These patients are more or less obese, mentally depressed and easily fatigued. They complain of chilliness and vague aches and pains. The skin and hair are dry; there is a relative lymphocytosis; the blood sugar is low and the carbohydrate tolerance is increased. The basal metabolic rate is not a thoroughly reliable diagnostic criterion, but is suggestive. The therapeutic test is made by administering thyroid preparations.

The usual cause of failure in the treatment of these cases is *insufficient dosage* of the thyroid preparations or improper administration. Thyroid should always be given on an empty stomach—one hour before meals. One milligram of *thyroxin* is equal to 1 Gm. of thyroid substance, and when given, intravenously or by mouth, should increase the basal metabolic rate 2.8 percent.

Blood Stream Infections

By Dr. Sydney R. Miller, Associate in Clin. Med., Johns Hopkins School of Med., Baltimore, Md.

It seems improbable that there is ever a true infection of the blood stream, in the sense that cellular tissues are infected; and when bacteremia (the presence of demonstrably living bacteria in the blood) occurs, it seems likely that the organisms are merely *in transit* from primary to secondary foci of infection, and it is doubtful if any drugs can kill them without injuring the tissues of the host.

The clinical picture of bacteremia is extremely variable and spontaneous cures are rather common. The condition is not always serious. Robust patients generally recover, if the original focus of infection is discovered and cleared up. When it occurs as a terminating event in a long illness, recovery cannot be expected in any case. The mere finding of bacteria in the blood need not call for a grave prognosis, but prompt steps must be taken to stop the invasion.

Sudden massive or repeated smaller invasions of bacteria are almost sure to break down the body's resistance; otherwise the outcome is in doubt.

Resistance and immunity appear to reside in the *reticulo-endothelial system*. The *monocytes* are widely distributed in the body and are very actively phagocytic. This system probably produces, also, agglutinins, precipitins, hemolysins and other immune substances.

As yet there are no clear indications for the use of drugs for the purpose of killing bacteria in the blood. This matter has not, so far, been soundly studied, and such remedies are not wholly free from dangerous possibilities.

Obesity and Hypertension

By Dr. Lea A. Riely, Prof. of Clinical Med., Univ. of Oklahoma School of Med., Oklahoma City, Okla.

Most cases of obesity are due to overeating, though endocrine factors enter into the so-called endogenous types. The basal metabolic rate of these patients is generally normal.

Fatness is the result of a dangerous habit, and excessive eating produces as disastrous results as those following the abuse of alcohol. Even a moderate excess of caloric intake, persisted in over long periods, can produce serious obesity.

Patients suffering with exogenous obesity (that due to overindulgence at the table) show a *general* distribution of the fat, which places a strain upon all the organs of the body. Most of these people are potentially diabetic and hypertensive, the increased

blood pressure being more or less compensatory, to drive the blood through the fat-clogged tissues. Obese persons are especially subject to *atheroma*, due to excess of cholesterol, and those who suffer from diabetes and obesity are prone to develop *arteriosclerosis* at an early age. Obesity may not *cause* hypertension, but they are frequently coincidental, and the blood pressure of fat persons should *always* be studied very carefully.

The treatment of this condition is largely *prophylactic* and should begin *early*. The diet must be carefully *studied* and arranged so as to contain proper proportions of protein (0.7 Gm. per kilogram of *ideal* weight per day), carbohydrate and fat. It is not sufficient merely to tell the patient, "Reduce your diet."

Arthritis Deformans

By Dr. W. S. Baer, Assoc. Prof. Clin. Orthopedic Surg., Johns Hopkins Univ. School of Med., Baltimore, Md.

Arthritis is generally divided into three groups: (1) Infectious; (2) Atrophic; and (3) Hypertrophic. The second type is probably the result of the first, and the third does not belong in this discussion at all, because it is not arthritis deformans but a metabolic disturbance which may well be called *rheumatic gout*.

The first type generally occurs in younger persons and is characterized by a *soft, symmetrical* swelling of the *middle* phalangeal joints (never of the distal joints). The third type is seen in older persons and shows *hard* swellings (new bone) of the *distal* phalangeal joints, arranged *asymmetrically*. Ninety percent (90%) of all cases of the second type (atrophic) begin with an *infection*, show hyperextension of the fingers, and go on to atrophy of all the tissues and ankylosis of the joints.

Infection, plus X, equals arthritis deformans. In this equation, X may represent an endocrine disturbance, heredity or various other things which, *alone*, cannot produce arthritis.

Every case of this condition should be completely studied, *in a hospital*, to determine the source of infection. The commonest organism found is a non-hemolytic streptococcus. A culture should be made from one of the *lymphatic glands* draining the infected area (these cultures grow *very slowly*, requiring ten days to six weeks to reach maturity), and a vaccine should be made from the culture.

The treatment of arthritis deformans consists in discovery and removal of the focus of infection and the administration of *vaccines*, in increasing doses and with rest periods between the courses. Stock vaccines may be used if it is impracticable to procure autogenous preparations.

Salicylates should never be used in infectious arthritis, but are excellent in hypertrophic arthritis, in connection with a properly planned diet.

The Influence of Emotional Stress on Allergic Manifestations

By Dr. J. C. Michael, Houston, Tex.

The emotional condition of the patient has a marked effect upon many socalled allergic symptoms. An obstinate case of pruritus, afflicting a business man who was in financial difficulties and finally went bankrupt, was completely relieved when he became reestablished. A woman with severe urticarial attacks was found to have had a serious quarrel with an intimate friend. When this matter was amicably settled, her urticaria ceased. Many more cases of the same sort could be outlined.

Sometimes a coincidence throws us off the track. A woman complained of a severe urticarial eruption shortly after eating spinach, but inquiry developed the fact that she was in love with a married man and, at the same time she ate the spinach, she received a telegram stating that her lover was dying of cancer in a distant city. "Phychic catharsis" completely relieved her urticaria.

It is easy to fail in our treatment of many disease states if we forget the psychic life of the patient.

Taroxide and Ultraviolet Rays in Dermatology

By Dr. J. R. Allison, Columbia, S. C.

The use of x-rays in the treatment of generalized dermatoses is not so satisfactory as it at first appeared. A better method is the use of ultraviolet rays (we used a quartz-mercury lamp), preceded by applications of a tar distillate ointment (Taroxide).

The patient should be smeared all over with the Taroxide and then exposed to the ultraviolet rays in the usual way, on two successive days. On the third day, without applying the tar, give a *10-minute* ultra-

violet treatment, with the lamp at 18 to 20 inches. The resulting erythema will not be unduly severe.

Under ordinary conditions, ten days or more are required to develop a tolerance to ultraviolet rays which will permit a 10-minute exposure at this distance. Perhaps the rays produce some change in the Taroxide; or perhaps there is an increase in photosensitization.

The Treatment of Congenital Syphilis

By Dr. Joseph Yampolsky, Atlanta, Ga.

The satisfactory treatment of infants with congenital syphilis is difficult for the average practitioner, because the veins are small and fragile and injections into the jugular vein or the superior longitudinal sinus are highly specialized procedures, to be carried out in a hospital by experts.

In such cases, **intraperitoneal injections** of arsphenamine and mercury are satisfactory. Give 0.1 Gm. of neoarsphenamine in 2 cc. of isotonic saline solution for each 15 pounds of body weight, and 1/2 grain of Mercurosal for each 30 pounds of body weight. These are administered *alternately*, at 3 to 6 day intervals, until 16 treatments have been given. Rest 30 days, and make a Wassermann test. If it is positive, start a second course at once; if negative, wait another 30 days before beginning another course. Subsequent courses depend on positive Wassermann tests.

This method causes no pain and no peritonitis. The needle used should be 2 inches long, 23 gage, and should have a blunt point, so as not to perforate the bowel. The use of a *small amount* of fluid is important.

Bismarsen as an Antisyphilitic Drug

By Dr. J. A. Elliott, Charlotte, N. C.

The toxicity of bismuth arsphenamine sulphonate (Bismarsen) compares favorably with that of the older arsphenamines. It is soluble in water, easy to administer (always intramuscularly), and is a general systemic tonic.

In 95 cases, we have given 1,500 injections of Bismarsen. Among these there were one severe and four mild nitritoid reactions. It can be given to some persons who cannot take arsphenamines intravenously. No more pain results than is produced by any other intramuscular injection. All intramuscular injections must be properly placed to secure the most satisfactory results. Several patients have taken 60 or more injections without serious complaint. The solvent supplied in ampules now contains a small amount of Butyn, which makes the pain negligible.

Our results have been good. The serologic reactions have been reversed promptly and uniformly and the general condition of these patients has been markedly improved. Six (6) cases of chancre, seen in the pre-Wassermann stage, have all remained negative.

Some observers have complained of the comparatively slow disappearance of the lesions of the disease. This is, as a matter of fact, a favorable feature of Bismarsen therapy, for it shows that the resistance of the patient is being gradually increased, rather than overwhelmed by the drug.

Psychic Factors in Organic Disease

By Dr. W. R. Houston, Augusta, Ga.

"A psychosis is a scoliosis of the psychic mechanism." The matter of prime importance is, not the disease state, but the *patient*.

It is generally recognized that the hollow viscera and the sympathetic nervous system play a large part in many morbid conditions; and we know that the correction of physical maladies often helps psychic disorders. We are so accustomed to approaching the higher functions of man from below, that we sometimes forget the fact that they can be approached from above, through the cerebral cortex, which is, perhaps, the more important route.

Pavlov's studies in the physiology of the cortex of the brain are objectifying psychiatry, and his hypothesis of conditioned reflexes clears up many obscure matters.* In order to understand what is going on in a patient, a sound knowledge of neurology is essential, and every physician should possess such knowledge.

No chemical pressor substances have been found in the blood to account for essential hypertension, and this condition is not found among the Chinese, whose blood pressure averages 15 to 20mm. lower than that of Americans. They live a more leisurely and unperturbed existence, at a dif-

*Pavlov's statements may prove to be entirely sound, but Watson has loaded the idea with a mass of dogmas and has made a religion of behaviorism.—Ed.

ferent emotional level.† It has been observed that Westerners who live long in China lose their reactions of fret and hurry and that their blood pressure falls to the point observed in native Chinese. **Essential hypertension** is of psychic origin, and its treatment should consist in the establishment of an attitude of calm.

Gastrointestinal, catarrhal and degenerative diseases, thyroid disorders and a number of other morbid conditions have distinct psychic factors, which may be of prime importance.

It is dangerous to dogmatize, and any simple explanation of observed facts, devised for the purpose of obviating the necessity for thought, is inevitably wrong. None the less, *emotional tonus* is fundamental and produces profound effects upon the vegetative nervous system which, in turn, determines functional changes in all or many organs, thus causing more or less marked organic alterations. This fact must always be considered in outlining treatment.

†The Chinese, moreover, have an organized and inclusive philosophy of life, which makes for calm, if not for material progress. Most of us have no such philosophy and our lives are a mad scramble for things which, in the main, matter very little or not at all.—Ed.

The Treatment of Uterine Fibroids

By Dr. William Neill, Jr., Baltimore, Md.

Seventy-five (75) percent of small fibroids, and 50 percent of large ones are amenable to radiation treatment. They disappear in from six months to several years after the raying is applied.

Most patients prefer radium to x-rays, and this should be applied within the uterus whenever possible, as it gives more complete and accurate control of the treatment and is less likely to destroy the function of the ovaries. If, however, the uterine canal is long and tortuous, one can use radium or x-rays from the outside.

The results from radiation therapy are as good, in properly selected cases, as those following general surgery. Operation may, in some cases, be needed at a later stage, even after irradiation has been given.

In the presence of acute pelvic inflammation or of aplastic anemia, do *not* use radium, but operate. Secondary anemias are, however, good cases for radiation treatment.

There is, at present, too much interference with fibroid tumors, on insufficient indications. Small, symptomless fibroids should not be treated at all.

Irradiated Ergosterol

The Richest Source of Vitamin D

(A Review of Recent Literature)

By E. H. Volwiler, Ph.D., *Chicago*

THE newer developments of scientific medicine regarding the nature of rickets and similar disease conditions, due especially to calcium deficiency or faulty assimilation of available calcium, are of the highest interest to clinical medicine and to the practitioner. The most important phase of this development is that which has shown that deficient calcium (and phosphorus) absorption and assimilation are responsible for the conditions mentioned and for other disorders, and that their assimilation is dependent upon the presence and activity of a certain vitamin—vitamin D, the antirachitic vitamin—the richest source of which now known is ergosterol which has been subjected to ultraviolet irradiation.

This review deals only with irradiated ergosterol and its indications and results in clinical medicine.

It was observed some years ago that ultraviolet irradiation of certain foods endowed them with antirachitic qualities. Research confirmed the fact that only lipoid-containing foods were susceptible to such effects, the lipoid containing a pro-vitamin substance; furthermore, that the pro-vitamin belonged to the sterol fraction—perhaps cholesterol, a substance widely distributed in animal and vegetable cells. Isolated cholesterol was found to be capable

of being activated by ultraviolet irradiation so as to become endowed with antirachitic properties.

Rosenheim and Webster[1] showed that chemically pure cholesterol, on being irradiated, failed to become antirachitic, and concluded that it was some impurity, associated with cholesterol in its natural state, that should be regarded as the pro-vitamin. Finally it was demonstrated that the substance responsible for the antirachitic effects was the sterol known as ergosterol, which is found constantly associated with cholesterol.

Irradiated Ergosterol

As the result of ultraviolet irradiation, ergosterol acquires antirachitic properties which suggest that it has been chemically changed into the substance known as vitamin D—the antirachitic vitamin. There is reason to believe that the active antirachitic principle in cod-liver oil is identical with that of irradiated ergosterol; also the spectrum of insulin shows a marked resemblance to that of irradiated ergosterol.

Early experiments with commercial preparations of irradiated ergosterol showed that the daily administration of as little as 0.002 mgm. of this substance sufficed to protect rats from the development of rickets, that it was several hundred times more potent than irradiated unpurified cholesterol, and vastly more potent than cod-liver oil.

Definite clinical proofs of the value of irradiated ergosterol in rickets and other diseases due to calcium deficiency or defective calcium metabolism, have been given in the literature. György[3] was one of the earliest to verify it, in 25 rachitic and tetanic children, the results being confirmed by the serum calcium and phosphorus findings in blood examinations, before and following treatment. Beumer and Falkenheim[4] soon demonstrated the good effects in 6 cases of intense, florid rickets, and the clinical findings were verified by roentgen and blood-chemical examinations.

The report of Wiskott[4], who treated 55 rachitic children with irradiated ergosterol, is typical of many others. This investigator found that, after 14 days' treatment, a distinct new calcified band could be discerned in a roentgenogram of the epiphyses. Blood examinations showed normal or even hypernormal phosphatemia and serum calcium.

Mouriquand, Bernheim and Puig[5] reported a similar rapidity of calcification. Hess and Lewis[6] found that the first signs of calcification are observed in the cranial bones and the correction of craniotabes. All clinical reports in the literature have been highly favorable.

In tetany and osteomalacia, excellent clinical results have also been reported, such as those of Höttinger[7] (in 1 case of adult tetany and 3 of osteomalacia), and by Starlinger[8], and Strote[9]. The latter investigator reports 3 cases—one advanced rickets, one osteomalacia, and one of marked tetany—which had resisted other treatments, but showed marked improvement and cure under treatment with irradiated ergosterol.

Irradiated Ergosterol in Fractures, Etc.

Bors[10] reports rapid healing of experimentally produced fractures in rats to whose food irradiated ergosterol had been added; but the fracture consolidation in controls, which had not received irradiated ergosterol, was much slower. Wiskott reported a clinical case of delayed fracture union, treated with irradiated ergosterol, with a resulting rapid consolidation, and Knoflach[11] reports good results in 55 clinical cases of fracture of the long bones.

Irradiated ergosterol has been found effective by Bond[12], as a wound dressing.

Walther[13] reports that he has found irradiated ergosterol of great value in gynecology, in cases where there is an extensive loss of blood. He administers the ergosterol, in combination with calcium, for hemorrhages, in the secondary anemias following metropathies, menstrual disturbances, postpartum hemorrhages, etc., and in pregnancy (especially in women with imperfectly developed generative organs), as a prophylactic against fetal rickets.

Other matters of clinical interest connected with vitamin D deficiency appear in recent literature. Thus Grant, Suyenaga and Stegemin[14] found that, in rats, susceptibility to tuberculosis increased with deficiency of calcium and vitamin D in the diet; and Hess and his associates[15] demonstrated experimentally that hens' eggs, deficient in vitamin D, lost their fertility.

The Vitamins and Resistance to Infection

An important matter that has recently been discussed is the possible role of the vitamins as factors which increase resistance to infection. The fact that animals with a vitamin D-poor diet were found especially

susceptible to tuberculosis has been mentioned. Infection-resisting power has usually been associated with vitamin A; and in a recent article, Green and Mellanby[28] show that, although this vitamin is often associated with other vitamins, they are satisfied that the anti-infection potency is centered in vitamin A. In cod-liver oil, for instance, vitamins A and D are combined. The idea that vitamin D could be substituted for cod-liver oil or for any other vitamin A-containing substance, and would produce the same results in regard to building up the resistance against infection, is believed to be erroneous. However, it may be that there is a certain amount of supplementary or interrelated action between the vitamins. Eicholz and Kreitmar[27] claim that, by the simultaneous administration of vitamins B and D, the resistance of pneumococcus-infected mice, fed on a vitamin D-deficient diet, was much increased; and Pfannensteil[29] reports similar results in regard to typhoid fever. This phase of the interrelationship of the different vitamins is one that probably will receive great attention in the near future.

Dosage and Possible Hypervitaminosis

An outstanding question connected with irradiated ergosterol, as a source of vitamin D, is that of dosage. Correct dosage is a matter that cannot be decided by casual animal experimentation, but must be arrived at by the careful observation of large series of clinical cases in which constitutional and other factors vary. A dose which may easily be tolerated by one patient, without the least noticeable reaction, may cause serious reaction in another.

Hess and Lewis[6] found that, with the ordinary doses of irradiated ergosterol, accepted as therapeutic doses at the present time (2.5 to 5 mg. daily), the inorganic blood phosphates varied considerably in different patients. In some of their patients, the blood phosphates ranged as high as 10.4 mg. per 100 cc. (a value double the normal), although no clinical disturbances were observed. In several of their cases the blood-calcium level was above normal, and two infants showed untoward symptoms associated with the hypercalcemia. Hyperphosphatemia persists for a considerable time after cessation of the medication.

A point of importance noted by Hess and Lewis in the blood examinations of rachitic infants treated by irradiated ergosterol was that the inorganic blood phosphates rose to comparatively higher levels, in the same time, than the serum calcium. The calcium level increased from a low of 7.8 to 11.6 in cases of their series, and the phosphorus level from 3.8 to 10.4. These figures are, of course, exceptional, but they show that the mineral metabolism is not parallel. In some cases, phosphorus fell while calcium rose in the blood serum. The general rule is for the calcium and phosphorus to reach normal levels, or slightly higher, in the serum.

Kroetz's[19] investigations with irradiated ergosterol, administered to normal healthy adults in dosage (18 to 30 mgm. daily) much higher than what is considered the normal dosage, showed that there were metabolic changes, as proved by the excretions. The serum phosphorus sank, and recognized blood acidosis followed. The metabolic changes in the healthy adult were the opposite of those observed in the rachitic child. These results were not supported by the investigation of Harvard and Hoyle[26].

While, of course, toxic and other effects may be expected with very massive doses, many thousands of times greater than the highest therapeutic dose, further clinical investigation indicates that such effects, even in a slight degree, seem to be entirely absent or at least extremely exceptional with the ordinary therapeutic dosage. However, the questions of what constitutes hypervitaminosis in regard to vitamin D, and the relations of equilibrium between this and the other vitamins are matters that still remain to be more definitely settled

Hess and Lewis, from their clinical experience, tentatively recommend 0.5 mgm. daily as a prophylactic dose, and 1 mgm. as a curative daily dose for rickets. Treatment should begin at the age of one month. For premature and rapidly growing infants, the dosage may be increased to 2 to 3 mgm. daily. For pregnant and lactating women, 1 mgm. daily suffices. Harris and Moore[24] also think that a fully adequate dose, according to all the evidence at present available, would be 0.5 mgm. as a prophylactic, or 1.0 mgm. for the average case of rickets.

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Practical Business Records for the Physician

By HALDOR CARLSEN, M.D., *Chicago, Illinois*
Attending Staff, Belmont Hospital

MANY forms for keeping records have been devised for doctors and many have been placed on the market. When a young man starts out in practice he thinks he has very little use for a complete system of records, as he feels that his work does not warrant it; but as his work increases he tries one form or another until he thinks he has one that fulfills his purpose. I have been no exception to the rule. If I could have consulted some one who had had a broad business experience in systemizing his work, when I first started, I could now have a more complete and interesting set of records covering all the years of my practice.

Experience, as we all know, is the best educator. After using various forms and outgrowing them, I was forced to find something that would be more or less perpetual and at the same time compact. No form or system is valuable except when it is kept up to date. It all depends upon the time you want to give it, and what value you place upon it.

I shall endeavor to explain our method of keeping records which we started over four years ago, taking care of an ever-increasing business.

There are several forms of keeping a *daily professional record history*. In our case we installed the McCaskey System.

DIARY

We use in our practice a *National Diary* (Form No. 1), which can be purchased in any stationery store and can be had in sizes to accommodate any individual practice .In our case we use the largest obtainable, which has practically fifty lines to the page and a page for each day of the year. We add some extra rulings, as shown.

On the respective pages for the day we post the names of the patients, noting whether it was an office consultation or treatment; whether a home or hospital call, and showing the amount of charges (if paid this is posted in the credit column; if not paid this is posted in the debit column).

Friday, January 7, 1927

		O	C	Dr.		Cr.		Pd. o/o	
✓	Mrs. Albert Johnson	✓		3	00				
✓	John Swanson		✓			3	00		
✓	A.P. Thorpe	-	-	-	-	-	-	50	00
✓	Mrs. A. Sweeney	T[1]		2	50				
✓	Joe Cappa	T		4	00				
✓	Gordon Dunn		✓	5	00			15	00
✓	Geo. Gorr	T				3	00		
✓	A.B. Allans (appendectomy)		H[2]	150	00				
✓	John Doe		H	H	C.[3]				
✓	C.W. Smith		✓	H	C.				

[1]Hospital. [2]No Charge. [3]Treatment.

Form No. 1.

When someone comes in and pays on his account, that fact is posted in the column "Accounts Receivable." Beyond this it is not necessary to make out any specific notations, as the history sheet should show what work was done.

From this daily diary all items are posted to the individual ledger accounts, as per form No. 2. Then, as each item is posted on the respective ledger sheets, a check mark is placed opposite the name to indicate that the entry has been posted in the ledger. It is a good practice to take the daily history sheets and check them against the diary before filing away, to make sure

PHYSICIAN'S LEDGER

Sheet No. 6

Occupation: Carpenter Contractor — Name: Smith, John

Business Phone: State 2345 — Residence Phone: Bell 6901 — Address: 322 State St.

Date 1927	Member of Family	Name	Calls: Office	Calls: Home	Calls: Night	Treatment: Med.	Treatment: Surg.	Prescriptions	Charges	Date 1927	Credits	Balance
Jan. 30	Self	La Grippe		✓		✓			3 00			3 00
Feb. 2	"	"		✓					3 00	Feb. 2	6 00	None
Mar. 3	Daughter	Constipation	✓			✓			2 50	Mar. 3	2 50	
1928										1928		
Apr. 30	Son	Abscess	✓				✓		3 00			3 00
May 1	"	"	✓				✓		2 00			5 00
May 15	Wife	Migraine	✓			✓			3 00	May 15	11 00	None

Form No. 2.

that one has not overlooked, on that particular day, any of the charges.

At the end of the month, or soon thereafter, we recapitulate our previous month's work on Form No. 3. Then, as we go through these pages, if we note an item without a check mark we immediately refer to the ledger to ascertain if it has been posted and, if not, it is then posted and checked off. This makes a double check on our work, thereby having complete charges posted before sending out statements.

It is poor business policy to try to send a corrected statement which would show that you had overlooked posting certain charges. It is far easier to correct an overcharge than it is to try to collect charges not posted until after the statement has been sent.

Ledger Sheets

Form No. 2, which we use as our ledger sheet, shows the headings under which we post. This sheet also has all the special information necessary regarding the status of

JANUARY - 1927

Date	Credit	Debit	Accounts Receivable	Home Calls	Office Con.	Office Treat	Major Oper.	Hosp. Calls	Calls N.C.	O.B. Cases	Fracture Cases	Tonsil Cases	Minor Oper.	Physiotherapy Receipts
1.	18.50	87.50	14.00	11	4	11	1	4	3	1	1	1	2	45.00
2.														
3.														
4.														
5.														
...														
28.														
29.														
30.	25.00	102.75	23.50	8	10	15	-	2	3	-	1	1		60.00
31.	21.50	98.75	40.00	9	8	18	1	3	5	1	-	2	1	51.00
	1020.75	981.00	523.50	245	354	320	8	65	31	8	4	5	3	675.00

Total Cash - $1544.25
" Business - $2001.75
" Home Calls - 310
" Office Con. and Treat. - 674
" Physiotherapy Receipts - $675.00
" O. B. Receipts - $300.00

Form No. 3.

SUMMARY MONTHLY
1927

Month	Credit	Debit	Total Business	Accounts Receivable	Total Cash	House Calls	Office Calls	Office Treatment	Major Operations	Hospital Calls	Calls No Charge	O. Bs	Fracture Cases	Tonsil Cases	Minor Surgery	Total Calls	Total in Office	Physiotherapy Receipts
Jan.	472.00	1812.50	2284.50	520.00	992.00	258	151	272	3	45	20	8	-	1	4	278	423	535.00
Feb.	565.00	2195.00	2760.00	1895.00	2460.00	161	250	235	5	80	45	10	4	4	2	196	485	600.00

Form No. 38.

the individual. These ledger sheets are made out in the name of the head of the family, and any and all work done for members of that family is posted on this sheet, showing the names of the various individuals. Should any member of the family get married, this automatically forms a new family account. In some cases, where a member of the family becomes of age and desires to have his or her own private account, a separate ledger sheet is made out.

At the end of the year the accounts are balanced down, ruled off and the balance carried forward, starting the new year by using the same sheet, only posting in large figures the year in the date column. It will be found that this ledger sheet may serve several years, provided the total work for the family during the year is not too heavy.

These sheets are placed in their respective places in alphabetical order in the ledger binder, and each letter of the alphabet is started with No. 1 and run out to the last sheet; as, for instance, A-1 etc,; B-1 etc.; and every new account is given the next higher consecutive number under the letter of the alphabet under which it comes. For instance, if sheet No. 40 is the last sheet under letter A, a new account added would be No. 41.

Should a sheet for the certain family be filled up on both sides, another sheet is added, but is given the same number, only adding a letter to indicate that there are previous sheets. For example, Anderson, No. 40; the next sheet would be No. 40-A, and so on.

Index Cards

In connection with Form No. 2 we have a card index system, alphabetically arranged, which shows the name of the patient, address, telephone number (and to this may be added any other additional information desired) and ledger page number. This acts for numerous purposes: *First*, it gives one a ready reference as to the patient; *second*, it acts as a ready index for finding the ledger sheets; *third*, one can ascertain whether the account is active or inactive. For instance, at the termination of the fiscal year, if the ledger sheets show that no work has been done for the individual family, this sheet is taken out of the active ledger and placed in the inactive ledger. A pencil mark with the letter D is placed in the upper right hand corner of the index card, beside the number designating the ledger page. Should any member of this family come in for services during the following year, this account again becomes active and is taken from the inactive and placed in the active ledger The pencil notation is then erased from the card. This also serves as a ready mailing list should one desire to mail notices or season greeting cards to one's patients. It also serves to show very readily how many families you have served, or are under your care.

Monthly Recapitulation Sheet

On the regular monthly sheet (Form No. 3) you will note the various headings applicable to any one doing more or less general work (others can be added if desired). In the credit column post all cash receipts for services rendered, on which immediate payment is made; in the debit column post such items as are charged to open accounts; in the column, "accounts receivable", tabulate such monies as are payments on open accounts, for services rendered previous to the date paid.

Then we list our work in the respective columns, according to the headings on form No. 3. This is usually done at the end of the month, or the first of the following month, and enables one readily to see what department of one's work (if any) is falling off. It readily shows how your time has been spent and which part of your work may need more careful consideration for greater improvement.

We adhere strictly to actual tabulations, according to the heading, and do not consider any one coming in and paying on an old account as an office visit, unless it is actually charged for. We have arranged a special heading for recalls not charged for, especially in cases of postoperative or obstetric work.

At the end of the month we have a ready reference record, showing the actual cash received; actual amount of work charged for or placed on the books; and the amount of money which has been received for previous work done. The credit column, plus "accounts receivable", gives the total amount of collections for the month. The credit column, plus the debit column, gives the total amount of work done during the month. In the same way, totaling the other individual columns, gives the total resume of work done. The items in the various columns can be changed to suit the indi-

OBSTETRICAL RECORD FOR YEAR 1928

Date	Name	Address	Kind	Age	Type	No.	Sex	Place	Vis
Feb. 12	Wentzel, Margaret	6630 Higgins Ave.	P	21	N	1	M	Belmont Hospital	L.
" 28	De Laurentis, Mario	3733 Nora Ave.	M	31	N	4	F	Home	L.
Mar. 2	Jones, Helen	345 Bell Ave.	P	42	I	12	Tw.	Swedish Covenant Hosp.	S.B.

Form No. 4.

vidual's special need. Each following year you can readily compare all facts with same month of preceeding year, and if you are slipping you can immediately take an inventory of yourself and ascertain the reason.

A *Yearly Summary* is made out on Form No. 3-A, the same as Form No. 3, except that we post the total of each month, which gives us the total monthly and the grand total for the year.

Obstetric Record

For those who do obstetric work in their general practice, it is of great interest to see at a glance the amount of such work done during the year.

I have prepared for myself Form No. 4, which gives at a glance a vast amount of information. For instance, whether primipara (P) or multipara (M); type, whether normal (N) or instrumental (I), breech (B) or podalic (P). The number indicates the total number of children; sex, whether the child is a male or female; place, designating whether delivered at home or hospital; viability, designating whether alive (L) or still-born (S).

These sheets can be kept in your regular ledger, as they are the same size as Form No. 2. You can readily see which are your heaviest months, compared with previous years.

Conclusions

It is a fact that the business end of medicine is lacking in the curriculum of our colleges, which has made it very hard for many of our fellow practitioners who have had no business experience at all and have had to rely upon their own resources for some means of recording or keeping a record of their accounts.

This record of personal experience is intended to stimulate more men to better business ideas in medicine.

4747 Milwaukee Avenue.

Studies in Photochemistry*

(II. The Shear Test applied to Maize Oil)

By A. J. Pacini and R. W. Crosley, Biophysicists, *Chicago*

In a previous paper a reaction was described in which infrared radiation produced a chemical effect similar to that obtained with ultraviolet. This was the destruction of a chromogenic substance occurring in cottonseed oil[1].

Here we describe a reaction of maize oil, which can be produced both by infrared and by ultraviolet, adding another one to our series of reactions in which these two radiations are found to produce apparently the same end-results.

The Shear Test

Shear[2] reports a color reaction of ultraviolet-irradiated cholesterol with a reagent consisting of aniline and hydrochloric acid. He also applied this to various oils. The reagent is prepared by mixing one part of strong hydrochloric acid with fifteen parts of freshly distilled aniline. This reagent is boiled with an equal volume of the oil under test. He reports that a yellowish or brown discoloration is produced, except in the case of cod-liver oil, where a bright red is produced, which is sometimes preceded by a flash of green. He aerated a sample of cod-liver oil at 100°C. for an hour and found that it gave a much more intense color. He also found that, after exposure to ultraviolet radiation, various oils gave the red color. He reports the appearance of a very slight positive test

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with mineral oil, and that linseed oil gave the test after being heated for fifteen minutes in air at a low temperature, but not after being heated to a higher temperature. He also reports that the test is given by furfural.

Rosenheim and Webster[3] report that the test is given by benzoyl peroxide and by turpentine dissolved in olive oil.

We have found that the test is given with great intensity by hydrogen peroxide.

These findings point to the inference that this reaction is due to oxidizing substances, perhaps organic peroxides. Furfural is not stable. It is highly probable that a sample of furfural, unless perfectly fresh, would contain a peroxide, as does a sample of benzaldehyde.

Methods

We have studied this test as given by maize oil. Instead of using equal parts of oil and reagent, we use one part of oil to two of reagent.

Upon cooling, the mixture of oil and reagent separates into two layers, of which the lower is darker, and in intense samples, far too dark for comparison. We have developed a method by which a homogeneous mixture may be obtained and at the same time the oil sufficiently diluted to permit easy comparison of samples.

One cc. of the oil under test is heated with 2 cc. of the reagent. After standing an hour or more, 5 cc. of ether is added and the mixture shaken. A precipitate is formed, probably of aniline hydrochloride. The addition of 5 cc. of water redissolves this precipitate and forms two layers of liquid. The lower or watery solution is colorless or slightly yellow. The upper or ethereal layer is usually clear and contains the coloring matter.

The color does not reach its maximum intensity during the process of heating with the reagent, but continues to increase for considerable time. It has been our custom to allow at least an hour for the color to darken, although it has not reached its full intensity even after that time. For this reason we have saved samples which were to be compared with one another until all were ready and then added the reagent to all of them as nearly as possible at the same time.

The infrared generator was operated at a temperature near 800°C., so that its maximum energy was peaked in the neighborhood of 2.7 microns wavelength. A standard model of mercury arc in quartz was used as the source of ultraviolet*.

Experiment I:

Small samples of maize oil were measured from a burette into crystallizing dishes 3.5 by 7 cms. and were exposed to the radiation of the quartz-mercury arc at a distance of 15 inches. In accord with the theoretical consideration that in a photochemical reaction the change takes place at the exposed surface and is proportional to the exposed surface, we considered it possible to regulate the speed of change in the oil by changing the relation between mass and surface. The substance which gives the color test should be produced in quantities proportional to the surface exposed and the time of exposure. Its concentration, in the oil, should then be proportional to the product of area and time, divided by the mass of the oil.

All our samples of oil had the same exposed surface. The larger the mass of oil beneath this surface, the more slowly should the concentration be increased. In fact, the time required to reach a given concentration should be proportional to the quantity of oil. In practice the proportionality may not prevail because of a possible concomitant destruction or decomposition of the substance. Because of the nonpermanence of the test color, some of the samples must be kept standing many hours before the performance of the test, which allows much time for destruction.

Samples of 1.5, 3.0, 4.5, and 6.0 cc. were used, three of each. The following table gives the time for these samples. In the case of the samples given 12 and 16 hours, the radiation was not continuous but was interrupted after ten hours for a period of 13 hours.

Table

1.5 cc.	3.0 cc.	4.5 cc.	6.0 cc.
2 hours	4 hours	6 hours	8 hours
3 hours	6 hours	9 hours	12 hours
4 hours	8 hours	12 hours	16 hours

We did not find the absolute proportionality for which we had hoped. There was an approach to it, however, in that, when two samples had been exposed for the same time, the smaller sample was usually darker. Thus:

*We are indebted to The Burdick Corporation, Milton, Wisconsin, for infrared radiators and ultraviolet sources.

Size of sample	Time of exposure			Size of sample	Time of exposure
1.5	x	4	was darker than	3.0	x 4
4.5	x	12	was darker than	6.0	x 12
3.0	x	8	was darker than	6.0	x 8

There was one exception; 3.0 x 6 and 4.5 x 6 were almost alike, with 4.5 x 6 a shade darker.

The color did not seem to be directly proportional to the length of exposure; samples which were exposed a long time did not seem as intense as might be expected. This lends probability to the supposition that the chromogenic substance suffered a decomposition concomitant with its production and that the two reactions tended towards an equilibrium.

Two samples of 3 cc. were radiated in crystallizing dishes covered with glass plates, for 6 and 10 hours respectively. They gave a much paler color with the reagent than did any of the others.

Experiment II:

We found that exposure to infrared radiation also results in the production of this red color. In some samples of oil this is preceded by a stage in which a green color is produced. The green is hard to judge as it varies in color as well as intensity; probably because it is always more or less mixed with the red.

Small samples of maize oil were measured from a burette into crystallizing dishes and exposed to infrared radiation. They were placed on a turn table which revolved about ten times a minute beneath the radiator. They were exposed to the radiation for approximately one-fourth of each revolution.

Temperatures were taken with a copper-constantin thermocouple. The cold junction was enclosed in glass and kept in a thermos bottle of hot water in which a mercurial thermometer was inserted with its bulb close beside the thermo-junction. The hot junction was bare and was immersed in the oil, and moved about in the oil.

It was necessary to stop the rotating table during this operation. The temperature of the oil fell very rapidly when it passed from under the radiator. The highest temperature registered was in the neighborhood of 85°C. During each revolution of the table the temperature of the oil fell at least this low. After a number of trials the table was stopped at such a point that one sample of oil beneath the edge of the radiator did not rise or fall rapidly in temperature. The temperature of this sample was 98°C., which may be taken as representative of the highest temperature attained by the oil.

Samples of 1.5, 3.0, 4.5 and 6.0 cc. were used and times of radiation were adjusted as in the experiment with ultraviolet.

As in that experiment, no absolute proportionality was found between the volume of the sample and the time required, but there was a partial approach to it. Of two samples radiated for the same time the smaller usually produced the darker color with the reagent.

Size of sample	Time of exposure			Size of sample	Time of exposure
1.5	x	4	was darker than	3.0	x 4
3.0	x	8	was darker than	6.0	x 8
4.5	x	12	was darker than	6.0	x 12

There was, as before, an exception; 4.5 x 6 was darker than 3.0 x 6.

Another similar experiment was attempted with even less approach to proportionality. In these experiments, the color was not proportional to the time of exposure, being too light in the samples which received long exposure.

Under the conditions of this experiment the infrared did not act as quickly as did the ultraviolet. A sample exposed to infrared gave a considerably less dark color than one which had been exposed to the ultraviolet for the same time.

Experiment III:

An attempt was made to secure a rate of change under the infrared that should be as rapid as that under the ultraviolet. Samples of 3 cc. of oil in crystallizing dishes were exposed to infrared radiation of greater intensity. The intensity was such as to impart to the oil a temperature between 119° and 128°C., as determined at intervals with the thermo-junction.

Samples were exposed 2, 4, 6 and 8 hours. The 2-hour sample gave a color that was very intense. The color of the 4-hour sample should have been twice as intense but was only a little more intense than that of the 2-hour sample. No fresh ultraviolet sample was available for comparison, but comparison with ultraviolet samples which had been standing several days led to the conclusion that for the first two hours the reaction had gone more rapidly than with ultraviolet, but that after this time it had gone more slowly.

The 6- and 8-hour samples varied very little in intesity from the 4-hour sample. This suggests that an equilibrium was reached where the concentration of the chromogenic substance became constant. The intensity of these samples was less than the intensity of the darker ultraviolet samples.

Experiment IV:

An experiment was arranged to study further the effect of the ratio between surface and volume, and the attainment of an equilibrium state. Small samples of oil were measured from a burette into crystallizing dishes and exposed to the infrared. The temperature produced was in the neighborhood of 136°C.; the maximum temperature recorded was 140° and the minimum was 127.5°.

The samples were of 1.5, 3.0 and 6.0 cc., five of each. The times of exposure are recorded in the table.

TABLE

Time of exposure	Series A 1.5 cc. each	Series B 3.0 cc. each	Series C 6.0 cc. each
½ hour	A ½	B ½	C ½
1 hour	A 1	B 1	C 1
2 hours	A 2	B 2	C 2
3 hours	A 3	B 3	C 3
4 hours	A 4	B 4	C 4

After treatment with the reagent, the samples were compared, with the results shown below.

Darkest	Intermediate	Lightest	Remarks
A ½	B ½	C ½	difference very conspicuous.
A 1	B 1	C 1	difference less conspicuous.
A 2	B 2	C 2	only slight difference
A 3	B 3	C 3	very slight difference
A 4	B 4	C 4	very slight difference

For the shorter exposures the influence of the ratio between surface and volume is very marked, but becomes much less so after longer exposures.

In the A. series; A ½ was not so dark as A 1; A 1 was not so dark as A 2; while A 2, A 3, and A 4 were alike.

In the B. series; B ½ was not so dark as B 1; B 1 was not so dark as B 2; while B 2, B 3 and B 4 were alike.

In the C series; C ½ was not so dark as C 1; C 1 was not so dark as C 2, C 2 was not so dark as C 3; while C 3 and C 4 were alike.

Thus, an equilibrium state was attained by each series, but not so quickly in the case of the C series, which included the samples of 6 cc.

The equilibrium state was not the same for all the series. It was darkest in the A series, where the volume was smallest in comparison to the exposed surface. It was lightest in the C series, where the volume was greatest in comparison to the exposed surface.

The difference, however was very slight.

NOTES ON THE PRODUCTION OF THE GREEN COLOR

In some samples of oil a green color is produced upon heating with the reagent. Radiation with either infrared or ultraviolet eventually results in the loss of this reaction. Either ultraviolet or infrared may temporarily intensify this reaction or may impart it to an oil which does not originally show it. The green does not appear with some samples of oil.

One sample of maize oil which had been kept in the laboratory some months always showed the green on being heated with the reagent. Short exposure to infrared produced an intensification. Short exposure to ultraviolet also seemed to produce slight intensification. This last result is rather doubtful because the varying shade and the impermanency of the green made comparison difficult. Both radiations eventually led to replacement of the green by red.

One sample of maize oil, recently obtained from a scientific supply house, could not be made to give the green color under any conditions. Before treatment it produced a reddish orange with the reagent.

One sample of a popular brand of maize oil intended for culinary use was obtained from a grocery store in a sealed metal can. It gave a very pale orange coloration with the reagent. Short exposure to either radiations led to the production of the green. It was replaced by red more quickly under the ultraviolet than under the infrared.

The production and destruction of this green color is being subjected to further investigation.

OTHER CHANGES IN THE OIL

Both ultraviolet and infrared bleach maize oil, which similar action is being studied separately.

In the case of the infrared this bleaching was preceded in every case which we have observed by a darkening, which later disappeared.

In the case of ultraviolet, this preliminary darkening was not given by all samples of oil. When it did occur, it was of very short duration, lasting only a few minutes, while the discoloration produced by the infrared persisted an hour or more.

Long exposures to infrared caused the oil to become thicker and eventually to become a clear, yellow, transparent solid. It will be recalled that maize oil belongs in the class of semi-drying oils. We have not yet been able to produce this effect with ultraviolet..

Results

We have found that exposure to infrared radiation causes maize oil to respond strongly to the Shear test.

We have found that, beyond a certain point, longer exposure does not intensify the response. We attribute this fact to an equilibrium between the production and destruction of the chromogenic substance.

We do not consider this a case in which a reaction is carried to completion, because the same concentration of the chromogenic substance is not produced in all cases.

We have found that the relation between volume and exposed surface influences the rate of production of the chromogenic substance, and have presented some evidence that it influences the concentration of the chromogenic substance which is present in the equilibrium state.

This strongly indicates a reaction which takes place at the exposed surface. We have not proven that this reaction may not be due to the action of the oxygen of the air at the exposed surface.

We have found that exposure to ultraviolet also causes maize oil to respond to the Shear test. This also seems to be a surface phenomenon.

Both radiations may at times cause the preliminary production of a green color in this test.

Both radiations affect the color of the oil.

Conclusion

There is a resemblance in the action of infrared radiation and ultraviolet radiation, in that both cause maize oil to respond to the Shear test.

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Toxicity Studies of Colloidal Gold

By G. Ellington Jorgenson, M.D., *Hollywood, Calif.*

CONSIDERABLE interest centers about the use of colloidal gold as a remedy for malignant disease, especially in those cases that have reached the inoperable stage. There seems to be sufficient proof of its effectiveness to merit its application, not only in those unfortunate cases that have come to the surgeon too late to hope for permanent relief, but also in cases that obviously are remediable by surgical intervention; in the latter instances as an adjuvant to be used as an aid in prevention of recurrences, a hazard that constantly haunts every patient who has developed cancer.

For this reason, since there is, as revealed by a recent survey, a latent fear among medical men that the prolonged use of colloidal gold may result in chronic intoxication, it was decided thoroughly to test out the toxicity (if any) of such a preparation. The fear of intoxication is doubtless based upon the general toxicology of gold, for a review of all available literature reveals a paucity of actual controlled studies of the general systemic and organic effect of colloidal gold, when exhibited over long periods of time and in effective dosage.

Since there is available evidence to support the belief that colloidal gold is toxic only when it is contaminated with potassium aurate and with auric chloride, it was decided to use such contaminations in a colloidal gold preparation, as checks or controls.

The substance motivating the studies was the colloidal gold advocated by Dr. Edward H. Ochsner.* It is a dilution containing 1/1000 grain of gold colloid to each 10 minims. The supply used in these studies was procured on the open market, through agencies representing the author. The test

*This bears the trade name, Collodaurum, and is prepared by the Kahlenberg Laboratories.

animals were young but mature white mice and native rabbits.

The studies were carried out as follows:

Eight white mice, identified hereinafter by the group letter A, were penned in a clean wire cage. They were allowed a full diet, assuring them an adequate supply of all the necessary food factors, including vitamins, but in lieu of drinking water they were compelled to subsist on the dilution of colloidal gold previously referred to, which contains 1/1000 grain to each 10 minims of fluid.

Another batch of eight white mice was similarly treated, but instead of being compelled to drink the dilution of colloidal gold allowed group A, these mice were compelled to subsist on a dilution of gold colloid, similar in concentration but known to be contaminated with traces of potassium aurate and auric chloride. This group will hereinafter be identified by the group letter B.

Two groups of rabbits, four in each, were treated much as were the mice, with the exception that, instead of being compelled to drink the test substances, they were given them intravenously through the marginal ear veins. These two groups of rabbits will hereinafter be identified by the group letters C and D.

The animals of group C were given, intravenously, twice weekly, 1.5 cc. of the colloidal gold dilution bearing the trade name Collodaurum. Those of group D were given, intravenously, twice weekly, 1.5 cubic centimeters of the dilution of gold colloid known to contain traces of potassium aurate and auric chloride. The dose, 1.5 cc., was given to each rabbit.

After the lapse of two weeks a mouse from each group was killed and carefully autopsied. In addition to the gross inspection, sections were taken, for fixing, staining and histopathologic study, from the kidneys, liver, spleen, adrenals and spinal cord. Every two weeks thereafter, until the two groups had been exhausted, a mouse from each group was killed and studied as outlined above.

After the lapse of four weeks, one rabbit from each of the two groups was killed. These rabbits were autopsied and sections taken from the kidneys, liver, spleen, adrenals and spinal cord for histopathologic study, as in the case of the mice. Every four weeks thereafter until all of the rabbits of the two groups had been exhausted, a rabbit from each group was killed and studied as outlined above.†

Following is a series of autopsy reports covering both the gross and minute pathologic anatomy (when any was present) observed. (See tables 1, 2 and 3).

†With exceptions noted in the text and applicable to one group of rabbits.

TABLE 1

These mice received an aqueous solution of *pure gold colloid* (Collodaurum) for drinking.

Mouse No.	Time of Test	Gross Lesions	HISTOLOGIC LESIONS				
			Kidneys	Liver	Spleen	Adrenals	Spinal Cord
A2	2 Weeks	None	Normal	Normal	*	Normal	Normal
A4	4 Weeks	None	Normal	Normal	Normal	Normal	Normal
A6†	6 Weeks	None	Normal	Normal	Normal	Normal	Normal
A8	8 Weeks	None	Normal	Normal	Normal	Normal	Normal
A10‡	10 Weeks	None	Normal	Normal	Normal	Normal	Normal
A12	12 Weeks	None	Normal	Normal	Normal	Normal	Normal
A14	14 Weeks	None	Normal	Normal	Normal	Normal	Normal
A16	16 Weeks	None	Normal	Normal	Normal	Normal	Normal

*Two minor infarctions, whose nature indicated that their inception antedated the administration of gold colloid.
†Mouse pregnant. Dissection of the genitalia revealed no organic lesions or functional aberration.
‡Gave birth to a litter of 5 after 8 weeks gold administration. Autopsy of the litter revealed no gross abnormalities.

Conclusion: Daily ingestion of large amounts of pure colloidal gold resulted in no clinical signs of disposition, or demonstrable lesions on autopsy.

TABLE 2

These mice received an aqueous solution of gold colloid, *contaminated with gold chloride and potassium aurate*, for drinking.

Mouse No.	Time of Test Weeks	Gross Lesions	Histologic Lesions
B2.....	2	NONE	KIDNEYS: Several glomeruli congested. Tubules contained some cellular debris. No fatty changes LIVER: Central necrosis in several areas, moderate congestion and dilatation of sinusoids. SPLEEN, ADRENALS, SPINAL CORD: Normal.
B4.....	4	NONE	KIDNEYS, LIVER, SPLEEN, ADRENALS AND SPINAL CORD: Normal.
B6.....	6	NONE	KIDNEYS, LIVER, SPLEEN, ADRENALS AND SPINAL CORD: Normal.
B8.....	8	Coat not normally sleek. No loss in weight. Subcutis pale and icteric. Moderate number of punctate hemorrhages in small intestines.	KIDNEYS: Many tubules contained cellular debris. Many glomeruli were congested, with cellular infiltrations around them and leukocytes within the capsule. LIVER: Necrosis of hepatic cells in centers of lobules. Hyalin in coarse networks. Vascular congestion and bile stasis. SPLEEN, ADRENALS, SPINAL CORD: Normal.
B10.....	10	Coat rough and staring. Loss in weight, 21 grams to 18.5. Punctate hemorrhages in stomach walls and small intestines. Stomach veins congested. Fascia and muscle bile-stained. Heart flabby and pale.	KIDNEYS: Lesions of chronic nephritis. LIVER: Fatty necrosis of hepatic tissue. Congestion and bile stasis. HEART: Fatty infiltration. SPLEEN: Congested. Many eosinophiles present. ADRENALS and SPINAL CORD: Normal.
B12.....	12	Coat rough and staring. Loss in weight of 6 grams. Skin, subcutis, fascia and muscle icteric. Gastro-enteritis and congestion of omental vessels. Intestines contained blood and fibrin. Liver, kidneys, spleen and heart flabby and yellow.	KIDNEYS: Chronic parenchymatous nephritis. Necrosis with fat droplets in cells. Accumulation of tubular debris. LIVER: Severe fatty degeneration. SPLEEN: Severely congested; some fatty necrosis. ADRENALS and SPINAL CORD: Normal.
B14.....	14	Coat rough and staring. Loss in weight 6 grams. Skin, subcutis and muscles icteric. Animal obviously clinically ill. Refused food. Peritoneal fluid blood-tinged; *Culture negative*. Stomach and small intestine inflamed. Liver congested.	KIDNEYS: Chronic parenchymatous nephritis with begining fibrosis. LIVER: Congestion of blood and bile vessels. Central necrosis with much fat. SPLEEN: Fatty necrosis in a number of Malpighian bodies. ADRENALS: Some cell necrosis. SPINAL CORD: No lesions.
B16.....		Died on 15th week. Autopsy revealed a pneumonia of infectious origin.	

Conclusion: Here are the lesions of chronic gold salt intoxication. In mouse B14, cultures were made from each organ studied, outruling any possibility of bacterial injury and clinching the conclusion that the organic deterioration was due to the gold salts ingested.

TABLE 3

Autopsy Record of Rabbits Receiving Twice-Weekly Intravenous Injections of 1.5 cc. *pure Colloidal Gold* (Collodaurum), containing 1/1000 grain of gold in 10 Minims.

Rabbit No.	Time of Test Weeks	Gross Lesions	Histologic Lesions
C4.....	4	NONE	Kidneys, liver, spleen adrenals and spinal cord normal.
C8.....	8	NONE	Kidneys, spleen, adrenals and spinal cord normal. Liver normal with exception of a small aged abscess which had in part been replaced by scar tissue and in part still contained cell debris.
C12.....	12	NONE Note: — On two occasions this rabbit exhibited a mild restlessness immediately following the injection. This passed off very quickly and the rabbit seemed perfectly normal thereafter.	Kidneys, liver, spleen, adrenals and spinal cord normal.
C16.....	16	NONE	Kidneys, liver, spleen, adrenals and spinal cord normal.

Conclusion: Pure colloidal gold, administered intravenously in rabbits, caused neither gross nor histologic lesions.

Notes on Rabbits Receiving Impure Colloidal Gold Intravenously

Rabbits D-4, D-8, D-12 and D-16 all died following an intravenous dose of the impure colloidal gold used as a check in the studies. In the case of each rabbit there followed, a few minutes after the fatal dose, a collapse that resembled in every way the clinical phenomenon of anaphylactic shock. Rabbit D-4 died a few minutes after the exhibition of the first dose; rabbits D-8 and D-16 died a few minutes following the exhibition of the second dose; both showed mild symptoms of untoward action following the first dose. Rabbit D-8 was quite indisposed following the first dose; similarly affected following the second dose; collapsed following the third dose, but revived after two hours. But 45 seconds after the fourth dose had been administered it died suddenly in convulsions. Autopsy performed on each of these rabbits revealed neither gross nor minute lesions. The gold used was the same as had been used on the mice controls. It had been well sterilized before use.

Conclusions A colloidal gold containing traces of potassium aurate and auric chloride is not tolerated by rabbits when exhibited intravenously.

An Interesting Therapeutic Observation

In the course of these toxicologic studies there arose an opportunity for carrying on a very brief clinical observation of the behavior of a malignant growth in the presence of colloidal gold, given intravenously.

One of the rabbits in the batch from which the study subjects were chosen (a female) was observed to have a nodular growth involving one mammary gland. Histologic study of a section removed under procaine anesthesia revealed the growth to be a carcinoma.

As soon as this was established, the rabbit was placed in a cage by itself and twice-weekly, intravenous injections of a pure gold colloid (Collodaurum) in 1.5 cc. doses, were started. This rabbit showed no untoward reactions to the intravenous treatment and appeared normal throughout. At the time the treatment was started the mass was 2.4 centimeters in diameter and 1 centimeter in thickness.

Eight weeks after the inception of the treatment, the mass had been reduced to 2 centimeters in diameter and .8 centimeters in thickness. After twelve weeks the mass had been reduced to 1 centimeter in diam-

eter and 1 centimeter in thickness. After fourteen weeks it had been reduced to a small round nodule the size of a BB shot; and at the end of sixteen weeks the mass was of the same size and quite hard.

The rabbit was killed at this time and a careful autopsy was made, with a searching histopathologic inspection of all organs. This failed to reveal any evidence of metastasis.

Histopathologic study of the nodule in the gland revealed it to be composed of an overgrowth of connective tissue, replacing much of the gland tissue. This connective tissue, in areas of each slide, showed some hyaline material. There were remaining traces of true carcinomatous tissue, in which total obliteration of the lumen of all ducts was observed.

Summary and General Conclusions

Series of mice and rabbits were subjected to large doses of two colloidal gold preparations, one a pure colloid and the other an impure colloid, contaminated with potassium aurate and auric chloride. The mice were compelled to ingest the test substances daily and the rabbits were given the substances twice weekly, intravenously.

In the case of the pure colloidal gold no ill effects were observed after a period of constant exhibition for sixteen weeks. This applied to both the mice and the rabbits.

In the case of the impure gold colloid the effects were quite different. Mice began to show organic deterioration (chronic poisoning) after the lapse of two weeks, and at the end of 14 weeks the survivor autopsied revealed very pronounced lesions of chronic gold poisoning. Relative to the rabbits which received intravenous doses of this impure gold colloid, it is highly interesting and significant that they all succumbed to the toxic effects of this preparation, dying suddenly very shortly after the administration of a dose of 1.5 cc.

The studies herein recorded indicate that the administration of a pure colloidal gold, either by mouth or intravenously, is harmless, even in enormous doses; and, by the same token, the ominous danger of an impure product is clearly established.

The Dentifrice Problem

By Horace E. Jones, D.D.S., *Fort Wayne, Indiana*

IN *BULLETIN* No. 19 of the Carnegie Foundation for the Advancement of Teaching, which deals with the subject of "Dental Education in the United States and Canada," Dr. Gies, the author, points out the fact that, due to the separate existences so long pursued by dental and medical education, adequate provision for study of the peculiar problems found in lesions of the human mouth has curiously been omitted from the otherwise complete medical curriculum.

The present dentifrice problem is probably another result of the peculiar conditions in the dental profession that have attended this separation. The dental profession has not been greatly interested in materia medica and has never had the benefit of a body similar to the Council on Pharmacy and Chemistry. Hence the presence on the market of myriads of dentifrices, many of which are a monument to the power of unscrupulous advertising.

In the history of dentifrices, several types have been developed but the tooth paste retains the greatest popularity, by reason of its convenience in use. Its purpose is to keep the teeth clean and free from caries, and the gums in a healthy condition.

As caries appears to be the most prevalent dental ill, and as the condition was long thought to be due to an "acid" condition of the mouth, most of the "improved" pastes have been more or less spectacular attempts to correct this condition. Milk of magnesia has been much lauded as a neutralizing agent and has been known to cause harm, due to its causticity.

The use of "mild" acids has been advocated, in the hope that an alkaline saliva would be stimulated, but this has been repeatedly disproven when empiricism has been superseded by research. Some pastes have depended entirely on potassium chlorate to stimulate the action of the salivary glands to produce a more abundant saliva. A case in which this dangerous drug used in a tooth paste caused serious debility has been previously mentioned[1]. Some have used pastes containing drugs, such as ipecac

and iodine, in seeming forgetfulness of the obvious truth that no dentifrice is intended to be swallowed and thus play a role in internal medicine.

Such agents as phenol, tannic acid and formaldehyde have been suggested as general oral "germicides", but their continued use, day after day, is undesirable because they interfere markedly with the physiologic relationships existing in the mouth, even when used quite diluted, as they must be to avoid serious damage to the tissues of the mouth. When used so diluted, they are notorious for their lack of germicidal action.

The development of acid-producing bacteria under a mucin film which holds them for long periods in close contact with the enamel—"an unique calcified secretion; dead and inert"[3]—has been proven by Dr. J. Leon Williams to be the cause of the initial lesion of caries. This same film becomes stained and darkened with age. The apparent acidity of saliva is usually due to the solution of carbon dioxide in it and this disappears on standing in vitro for a time, the true reaction of such saliva being neutral. The problem today is simply to keep the teeth clean by harmlessly removing the film and its contained bacteria.

In seeking a harmless method of aiding oral hygiene it was early discovered that good results could easily be secured by using a paste whose principal ingredients were soap and chalk; and today the soap-chalk mixture is used more than all others. Soap possesses valuable detergent properties and chalk is the one agent that will induce the proper amount of friction and yet not harm the enamel. The proper amount of friction is often not secured by reason of the mistaken idea that any friction is undesirable, and "body", in some oral preparations, is secured by using powders that lack a sufficient degree of abrasiveness.

The action of a carefully made soap-chalk paste is usually as efficient as could be expected and is without harmful effects. There are pastes that contain entirely too much soap—in some as much as 18 to 28 percent. As Prinz points out in his "Dental Materia Medica and Therapeutics", fifth edition, page 302, the soap content should never exceed 2 or 3 percent, higher percentages not only being quite unnecessary but also interfering with the physiologic relationships it is so desirable to preserve.

Sodium Ricinoleate

A most interesting development recently was the suggestion of Dr. Thomas B. Hartzell, that the chemically pure salt, sodium ricinoleate, be substituted for the ordinary hard soaps generally incorporated in dentifrices. Dr. Hartzell had long been engaged in research as to the cause and amelioration of pyorrhea[3] which, he found, was initiated by lesions in the gingival tissues at the necks of the teeth, caused by bacterial invasion and digestion of these parts when their resistance had become lowered. The bacteria chiefly responsible were those of the streptococcus-pneumococcus group and it was found that this group was particularly sensitive to depression of the surface tension of the media in which they lived.

In searching for the most efficient surface tension depressant, sodium ricinoleate was selected and further study demonstrated its peculiar property of detoxifying, or neutralizing, in some way, the action of soluble toxins and endotoxins without destroying their immunogenic proerties. This is of significance as Besredka, whose work has been reviewed by the *Journal of the American Medical Association,* has demonstrated that localized tissue immunity can be secured by applying dead scarlet fever streptococci and diphtheria bacilli to the cheek membrane, in the form of a poultice.

In a recent communication to the American Dental Association, Dr. Hartzell[4] comments that, whereas Besredka worked with killed organisms which, due to autolysis, early lost their power of producing immunogens, it is possible to use organisms detoxified with sodium ricinoleate that had "lost none of their power of promoting the formation of antibodies but were robbed of their power either to destroy or to poison tissue cells."

The incorporation of the ricinoleate in a tooth paste was suggested solely as a means of securing the co-operation of the patient by having it used frequently at home. The formula suggested was: Sodium ricinoleate, 2 percent; sodium chloride, 2 percent; ethyl alcohol, 7 percent; and sufficient quantities of the finest bolted, precipitated calcium carbonate and a massing fluid, containing glycerine and flavoring oils, to give it a medium consistency.

For two years it has been my practice to present a small tube of the paste to each patient, as occasion offers; to teach him the correct method of brushing the teeth; and

then to observe results. It was thus that the value of sodium ricinoleate in the everyday dentifrice has been determined.

Teeth are found to be of a lighter shade after its use, due to more efficient removal of deposits; a sense of freshness is observed in the mouth that is just as apparent after two years continuous use as at first; there is an absence of abrasion or soreness of the gums—on the contrary, they are firmer; and there is a noticeable reduction in the amount of tartar, "green stains" and allied deposits formed on the teeth. It has been found useful in removing stubborn deposits from vulcanite dentures and children have remarked on its pleasant taste and have been thus encouraged to form definite habits of oral cleanliness.

The explanation of the good results obtained by the substitution of sodium ricinoleate for the common hard soaps in dentifrices is that the bacterial plaques causing the stains on teeth and the threads of leptothrix and actinomyces, which form the basis of tartar, are broken up when the ricinoleate has exerted its peculiar action on the organisms involved, thus enabling the detergent action of the ricinoleate and the friction of the chalk to be more efficiently applied.

The dentifrice problem, it is believed, is being brought, by slow and steady progress, nearer a solution; but it is by careful and painstaking study, based on long-established facts, rather than by spectacular methods, that this is being achieved.

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Filtered Ultraviolet in the Diagnosis of Ringworm Infestation of Hairs

By Herman Goodman, B.S., M.D., *New York City*

SINCE publication of my work on fluorescence, particularly in dermatology[1], I have received numerous requests from colleagues in this country to give some details of this easy and, apparently, unfailing method of detecting the presence of fungi in the hairs of the scalp.

The method is not new. There are a few references to it in foreign medical journals. The requirements are: (1) a source of ultraviolet emanation which gives a limited infrared emanation. (The therapeutic mercury vapor arc in quartz, both air- and water-cooled, or the conventional carbon flame arc may be utilized, provided some means are available to disseminate the heat of the latter apparatus, so that the ray filter will not be cracked; (2) a filter which has the characteristic that it permits the passage of the invisible ultraviolet radiations, but prevents the passage of the visible radiations. Two such filters are available in this country: One is the nickel filter of Wood, which permits the passage of the ultraviolet about the line 3660 Angstrom units; the second is the recently manufactured Corex red or blue-purple glass. This permits the passage of varying percentages of ultraviolet, from about 4000 to 2400 A.u., and includes about 10 percent of the visible violet. Most of my work has been done with this Corex filter and the mercury vapor arc in quartz apparatus.

In the examination of suspected heads of hair for tinea, one sets up the apparatus and permits it to operate to full intensity. The child is then taken to the dark room and the areas of suspected hair infestation are brought close to the window of the filtered radiation. If the hairs are infested, one sees each hair clearly, as a yellowish-green filament. This color is very shiny and is not easily mistaken. So far as I know, it is not possible to confuse this fluorescence of hair infestation seen in tinea with anything else. Certainly no possible application to the hairs, in efforts to treat the affection,

1.—*Brit. Journ. Dermatol.*, 1928: 40, (March) 105-116.

can cause any fluorescence which simulates this yellowish-green appearance.[2]

Dr. Graham, who has been on duty in the laboratory at the New York Skin and Cancer Hospital, where I have a filtered ultraviolet diagnostic lamp, reminds me that, in a number of cases which were not at first diagnosed microscopically, examination under the lamp disclosed fluorescing hairs which showed spores and mycelia under the microscope.

Search for the tinea in suspected cases of ringworm of the scalp is thus facilitated. Where a large number of suspects must be examined, the method is very helpful.

Tinea circinata of the non-hairy skin has been examined under the filtered ultraviolet rays and has been noted to evidence a similar yellowish fluorescence, limited to very small areas of the affected skin. The examination of lesions of tinea versicolor discloses a glow of dull golden-yellow.

No fluorescence indicative of such fungus infestation has been seen on examination of lesions of pityriasis rosea, and this may be a hint that such lesions are not due to fungi. On the other hand, I have not seen similar fluorescence in clinical cases of tinea marginatum (epidermaphytosis of the toes and soles) and intertrigo. Cultures of fungi of various types are being examined under fluorescence, and such diagnostic hints as should be helpful will be published later.

18 East 89th Street.

2.—Fluorescence in Ultraviolet Light, *American Perfumer & Essential Oil Review*, 1927 (Dec.), 567 with Prof. C. P. Wimmer.

A Liberally Educated Man

That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength, and in smooth working order, ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself.—HUXLEY.

THE SEMINAR

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 12 (MEDICAL)

ADAPTED FROM *New Eng. Journ. of Med.* (SEE CLIN. MED. & SURG., NOV., 1928, PAGE 823)

Recapitulation: Patient, man, age 52. Had hard chancre, followed by rash, at age 34. Hard drinker up to 5 years ago.

Healthy until August, when he began to vomit all food. Gastroenterostomy failed to relieve him, and after operation he vomited black-brown material. A third operation, in September, gave great relief and he went to work.

On Dec. 25 he developed dyspnea and hiccup, vomiting and palpitation. On Jan. 16, while in bed, he vomited a pint of bright blood and had 2 or 3 watery, bloody stools daily.

Examination: Heart dullness much enlarged; pulses irregular in force, rate and rhythm; arteries slightly thickened; systolic blood pressure, 110 mm.; temperature, pulse and respiration somewhat increased; urine negative; leukocytes 15,000, with 85 percent polys.; moderate anemia; occult blood in stools and vomitus. No pain.

Patient died in mild, restless stupor, Feb. 2.

Requirement: Discuss differential diagnosis and treatment.

DISCUSSION BY DR. WILLIAM G. PARKER, MT. VERNON, ILL.

Problem No. 12 in the November issue presents a fairly complete array of clinical evidence. The case is not an obvious one, for all of that. It is one in which the clinician must feel his way, sifting the significant facts from the mere clinical verbiage. Thus the family history does not seem to point to anything, as heart trouble, dropsy and jaundice are neither hereditary nor contagious.

The personal history of syphilis and chronic alcoholism indicates the kind of life the patient led. Syphilis and scarlet fever are always to be remembered.

At the time our author saw the patient he was suffering from a severe gastro-intestinal hemorrhage. Going back through the history we pick out a chain of incidents about as follows: For five years he had not been drinking and seemed to be in vigorous health. Then he began to vomit his food, sometimes as late as 48 hours after eating, sometimes only a few hours after eating. There was no pain. This suggests incomplete obstruction of the stomach. We find that a gastroenterostomy was done soon afterward, and this confirms the suspicion of obstruction somewhat, for this is the usual operation for short-circuiting the duodenum. Peritonitis supervening, a secondary operation was performed and the patient recovered, but was not relieved of the vomiting of black-brown material. About a month later another operation was done and symptomatic relief was obtained. This operation was probably one to relieve obstruction due to adhesions; or it may have been an enteroenterostomy, to do away with some vicious circle which complicated the gastroenterostomy.

The patient now ate heartily, chopped wood and apparently led a vigorous life until some three months later, when he became dyspneic and vomited. He also had hiccup and palpitation. It would seem from these symptoms that he had begun to bleed again. The history shows that he was placed on a diet of scalded milk and water. It was only about three weeks however, until he vomited nearly a pint of bright blood and had some bloody stools.

Severe gastro-intestinal hemorrhage is therefore the most urgent symptom. Certain possibilities present themselves to mind as to the source of this bleeding; namely, cancer of the stomach, duodenal ulcer and

portal stasis. There was no ascites, and we may therefore rule out atrophic cirrhosis of the liver. There were no abdominal masses, and we may therefore feel reasonably safe in ruling out cancer of the liver and cancer of the pyloric end of the stomach. There were no mesenteric metastases noted. There was no pain, and stomach cancer usually causes much distress. Duodenal ulcer may be very extensive and cause very little or no pain. I have seen almost fatal hemorrhage occur as the first notable symptom in a large duodenal ulcer. When duodenal ulcer causes distress it is not on eating but some time afterward, when acidified food is passing through the duodenum.

We find the patient in a state of collapse, as indicated by a very fast pulse rate, heart dilated outward from the nipple line, pulse deficiency marked, blood pressure 110 systolic, temperature ranging from 96.4 to 99.2°F., pallor, etc. The blood count shows 3,000,000 red cells and the hemoglobin percentage falling from 75 percent to 55 percent. How shall we interpret the white cell count of 12,000 to 18,000? Acute anemia from hemorrhage is accompanied by a leukocytosis, sometimes marked, with polynuclear cells predominating. This evidence of increased bone marrow activity ceases when the anemia is overcome. Cachexia from maligancy also presents a leukocytosis, but the patient has been described as rather vigorous and a hearty eater.

Inanition states are accompanied by occasional rises in temperature, as noted in this case. It is also recorded that the patient was somewhat stuporous and had a fruity odor on the breath. It is probable that this was a ketone acidosis, resulting from the restricted diet. When he was clear he retained food better. Ketosis is usually accompanied by nausea. He continued to have blood in the vomitus and stools, as shown by positive guaiac tests. Blood in the stomach in any amount tends to produce vomiting.

The remainder of the laboratory findings are not especially significant, except that there was hydrochloric acid in the vomitus, which tends to confirm a diagnosis of ulcer rather than cancer. The urine was negative; Wassermann test not recorded, but the eye and knee reflexes were not abnormal. After two weeks the patient expired with signs of circulatory failure (pulse rate 170, slapping heart sounds, many extrasystoles, etc.).

It seems evident that this patient died of repeated bleeding from the gastro-intestinal tract. Points in differential diagnosis have been enumerated in the review of the symptoms and signs. Cancer cases often bleed profusely, but the history of this patient, as given in the problem, does not point certainly to any notable sign of maligant disease, such as a mass, metastatases, cachexia, pain, or the typical stomach findings of cancer, except blood in an acid vomitus. On the other hand, with the one exception of an absence of medical pain, we have many reasons to suspect duodenal ulcer, and sometimes this presents but little pain as a symptom.

There remains to be discussed the matter of treatment. We have no mention of treatment except the surgical procedures and the milk diet. It is difficult to say whether other types of surgery should have been done, without knowing more of the pathologic condition actually present. Very likely the surgery was proper and should have been done earlier. Duodenal excision or exclusion, or pyloroplasty are matters to be decided by the man doing the operation.

Concerning the medical treatment I would have given this patient careful instructions about the dangers of early resumption of a hearty diet and vigorous work. Duodenal ulcers, like any other, take time to heal soundly, but they do have a greater tendency to heal than gastric ulcer, but also tend to recur.

I have had good results from the administration of organic silver compounds, such as one would use in mucous membrane disease elsewhere. Such drugs should be administered when the stomach is empty to secure local effect. Bicarbonate of soda is an effective alkali but its solution is alkaline and, even when all stomach acidity is neutralized, the bicarbonate continues to manifest its action. Alkalosis may be brought about from excessive amounts. I prefer to use the non-soluble alkalies such as precipitated calcium carbonate, which neutralizes only such acid as is present and stops at that point. Tri-basic calcium phosphate is also beneficial. Heavy oxide of magnesia may be used when a laxative effect is desired. Treatment must include a suitable diet and much physical rest and must be carried out with reasonable persistance. The discussion of medical treatment is, of course, based upon the supposition that the case was one of ulcer, complicated by recurring hemorrhage.

DISCUSSION BY DR. ISAAC E. CRACK, HAMILTON, ONT., CANADA

The picture presented by the man, when seen on January 19, is that of a patient with *cardiac decompensation*, and large doses of *digitalis* are indicated.

The problem is to know from the history what led up to the present condition. In the previous August the patient had marked symptoms of pyloric obstruction, which at that time could have been looked upon as due to a malignant growth, had we not considered the fact that, several years previous, this patient had a primary sore, followed by a rash. I would consider the August symptoms due to syphilis of the stomach, which symptoms were not much relieved by the gastro-enterostomy.

What the third operation, on September 21, was, which gave such rapid relief, only the operating surgeon knows. Was it the administration of arsenicals intravenously? I have seen a man, irrational and tied in bed, with cerebral syphilis, become fifty percent normal one week after one arsphenamine injection, and normal ten days after a second dose. Why not prompt results in gastric syphilis?

The man probably "chopped" too much wood in November, hence his beginning cardiac failure on December 25. The vomiting of blood on January 16, I would consider due to a syphilitic ulcer of the stomach, which eroded a fairly large artery. This hemorrhage hastened the collapse of the patient and would explain the subsequent stools and blood picture.

I would have treated this man early in August with neoarspenamine, intravenously, and mercury intramuscularly to tolerance.

DISCUSSION BY DR. HERMAN J. KOOIKER, MILACA, MINN.

Analyzing this problem on a basis of the physical examination and on the progress, I think it may safely be said the patient died as a result of *cardiac disease*. Therefore, it seems to me to be a case where the gastrointestinal symptoms so completely masked the early cardiac signs that the latter were completely overlooked. Persistent vomiting for a considerable period of time may be the chief symptom of cardiac decompensation. Because of this vomiting, the attention was undoubtedly centered on the gastrointestinal tract, and just what formed the basis for the operative procedures is not related.

The alcoholic and syphilitic history would make one think of hepatic cirrhosis; but the onset, physical findings and progress do not give evidence of cirrhosis. In coronary syndromes, various signs and symptoms may appear, presenting a picture similar to acute gall-bladder disease, acute pancreatitis, gastric ulcer or duodenal ulcer; also cancer of the stomach. All except the latter are usually accompanied by more or less acute abdominal pain. The history is entirely negative as to pain, therefore these are all ruled out, except cancer. However, cardiac disease may entirely simulate a gastric carcinoma. X-ray examination, careful examination for cardiac disease—enlargement, the sounds, blood pressure, shortness of breath on exertion—and weighing facts pro and con usually enable one to differentiate.

Some cases of cardiac disease are comparatively easy to explain from the symptoms; others very obscure.

Because of the intimate connection with the heart, through the vagus nerve, reciprocal disturbances are not surprising. Therefore, gaseous distension of the stomach rather easily explains palpitation and precordial distress.

It is unfortunate that more data are not given as to the reasons for the surgery. One must always remember, of course, that disease of the gastrointestinal tract and the heart may coexist, and that may have been the condition in this patient.

The treatment—rest in bed—which he received was proper for the cardiac disease. It undoubtedly was of benefit in aiding in the restoration of compensation because, after a lapse of 3 months, the patient was seemingly as well as ever. Upon resuming the rather strenuous wood chopping he suddenly broke again, failing rather rapidly. After this break the cardiac condition became more prominent, but no treatment was of any avail.

SOLUTION, FROM THE CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Dr. Richard C. Cabot remarked that the dyspnea and hiccup, which developed on Dec. 25, could hardly have been due to gastro-intestinal disease alone, and suggested that there must have been trouble with the heart or kidneys or both. The sudden vomiting of blood might come from

cirrhosis of the liver. His tentative diagnosis was : Probably *ulcer of the stomach; cardiac disease,* with possible renal involvement; possibly hepatic cirrhosis.

There was an enormous *dilatation of the heart,* which probably accounted for the dyspnea. This was probably due to *hypertension,* though the blood pressure was not high when he entered the hospital. The secondary anemia was from loss of blood.

Anatomic Diagnoses

Primary Fatal Lesions: (1) Syphilitic aortitis; (2) slight fibrocalcareous endocarditis of the aortic valve.

Secondary Lesions (of import): (1) Hypertrophy and dilatation of the heart; (2) thrombus in the right auricular appendix and branch of the right pulmonary artery; (3) infarcts in the right lung; (4) leukoplakia and erosions of the esophagus; (5) terminal streptococcus septicemia.

Comments by Dr. Tracy B. Mallory: The third operation mentioned in the history was a *lateral anastomosis of two loops of ileum.* There was no ulcer, cancer or other source of bleeding in the stomach, though the pylorus was thickened.

The heart weighed over 500 Gm. and showed considerable arteriosclerosis of the aortic valve. The aorta was greatly dilated, with the characteristic appearance of syphilitic disease. In view of these findings his gastric symptoms may have been *tabetic.*

The lungs showed numerous infarcts, one measuring 4 cm. in diameter. It seems probable that the blood was *coughed up,* rather than vomited.

Comments by Dr. Geo. B. Lake, Chicago

The discussants of this problem should be rather proud of themselves, as they have come as near to making a correct diagnosis as did the experts of the Massachusetts General Hospital.

This seems to have been an old case, seen before the x-rays and the Wassermann test were so widely used as they are today; otherwise the history would have been more complete and accurate.

The two points which seem to me to be most worthy of emphasis are: (1) The protean and obscure nature of the manifestations of syphilis, so that almost any symptoms, in one who has had the disease, are open to the suspicion of being luetic in character and; (2) the fact that disease of the heart is frequently manifested by gastro-intestinal symptoms.

One further suggestion. If a death certificate had been made out, in this case, without an autopsy, it would have been *absolutely wrong and misleading.* It would probably have shown death to be due to fatal hemorrhage from a gastric ulcer, and would have made no mention of the syphilis, which was the primary cause of the disease.

Any death certificate, in a case that is at all obscure, which is signed without an autopsy, is likely to be false—or, at least, incomplete—and is a discredit to the professional standing and acumen of the physician who signs it. When doctors realize the importance of autopsies, and *insist* upon them, we can get them, and the science of medicine will profit largely thereby.

Problem No. 2 (Medical)

Presented by Dr. Theo. F. Johnson, National City, Calif.

Patient a physician, age 65 years; slender, but in reasonably good health.

Family History: Father, a robust man, died at the age of 77 years, of cerebral hemorrhage; Mother died at 65, of valvular heart disease; one brother died of aneurism of the aorta; one sister, living and well.

Personal History: Ordinary diseases of childhood, including diphtheria and scarlatina; pneumonia at 16 and 17 years; short attacks of acute inflammatory rheumatism at 25 and at 30 years; chronic dilatation of the stomach. For years has done a large obstetric practice, handling many cases under adverse conditions, where it was necessary, for one reason or another, to work without gloves. Some of these patients were women of more than questionable reputation, but the patient never had any suspicious lesions upon his hands nor on any other part of his body. I am reasonably sure that this patient has never indulged in promiscuous sex relations.

Present Illness: In June, 1928, he complained of a throbbing, boring headache in the occipital region. This was intermittent, but very severe for two weeks and has continued, more or less, throughout his illness. He developed an afternoon fever of 1 to 1 1/2 degrees F.; his joints became stiff (the stiffness was relieved by motion); the heart rate was normal but the action was very violent; his appetite and strength failed, so that he lost weight and had to spend most of his time on a couch; his blood

(Continued on page 56)

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Parenteral Quinine Therapy in Pneumonia, Influenza and Pulmonary Tuberculosis

QUININE, when injected intravenously or intramuscularly, raises the quinine level in the blood to a much greater extent than does ingestion of the alkaloid, for, in the latter case, part of the quinine is destroyed on its passage through the liver.

The disadvantage of intramuscular and intravenous quinine therapy (severe pain, redness, brawny swelling, sometimes necroses and deep abscesses), which have prevented this mode of administration, are greater the further the pH concentration of the solution deviates from that of the tissues.

The need for a concentrated preparation of quinine with an alkaline reaction has been supplied by *Solvochin*, a German product, in which it was possible to adapt the pH concentration very closely to that of the normal body tissues. Solvochin is a 25-percent, aqueous solution of quinine in stable form, noncrystallized in cold and alkaline to litmus. Two (2) cc. of the preparation contain 0.5 Gm. of quinine. This preparation has been employed successfully in malaria (especially inoculation malaria), in acute lobar pneumonia, and in certain obstetric conditions. Its administration is free from any local irritation of the tissues and virtually without unpleasant after-effects, such as dizziness and tinnitus.

Certain disadvantages of an aqueous solution (notably, too rapid absorption) were overcome in *Transpulmin* **(Quicamphol)**, which is an ideal preparation of basic quinine; non-irritating; concentrated, so that only a small quantity need be injected; slowly absorbed; and not too rapidly eliminated. It is a sterile solution of basic quinine and camphor in ether oils, 1 cc. containing 0.03 Gm. anhydrous basic quinine and 0.025 Gm. of camphor. One (1) to 2 cc. may be injected daily intramuscularly (preferably intragluteally), the treatment being continued for from three to five weeks.

Writing in *The American Review of Tuberculosis* (November, 1928, xvii, p. 563) Harlan F. Newton and Kurt Heine report their results with Transpulmin in 40 selected cases of known pulmonary tuberculosis of the productive or cirrhotic types, uncomplicated by recognizable tuberculous foci elsewhere in the body. All patients had been at rest in bed for at least one or two months, during which time routine sanatorium treatment had been carried out. Transpulmin was then given intragluteally, 2 cc. daily, for three to five weeks. None of the patients experienced local pain or irritation. The treatment did not cause diminution of appetite, gastro-intestinal disturbances, insomnia, dizziness, headache, or ringing in the ears.

In 28 patients, all chiefly productive cases of pulmonary tuberculosis, Transpulmin seemed to produce favorable effects. None of the patients lost weight and the average gain was 7 1/2 pounds. There was a notable decrease in physical signs, proportional to the decreases in temperature and sputum output. Roentgen ray examination, at the end of five weeks, showed improvement proportional to the severity of the preexisting tuberculosis.

The other 12 patients showed a pro-

ductive, cirrhotic type of lesion, with slight elevation of temperature and daily expectoration of about 15 cc. Here treatment with old tuberculin was given, with Transpulmin, after the latter therapy alone for three weeks had shown little or no effect. Old tuberculin was given every fourth day, intracutaneously, beginning with 0.2 to 0.4 cc. of a 1:10,000 solution and increasing the amount and strength of the tuberculin with the injections. Transpulmin treatment was the same as in the other cases.

Tuberculin, combined with Transpulmin, definitely caused a more rapid improvement than when tuberculin alone was given. This was shown by an afebrile temperature and the sputum becoming, in all cases, bacillus-free and very scant. It was also shown by the gain in weight and by diminution of the active signs in the chest.

Parenteral quinine therapy with Quicamphol has proved effective also in early cases of influenza. In my personal experience it caused a prompt reduction of fever, lessened the prostration, shortened the course of the disease and promoted convalescence. The method has worked well in my hands.

H. J. ACHARD, M. D.
Glendale, Calif.

Percutaneous Medication
(Heat and Guimenthol in Lumbago)
(A Case Report)

LUMBAR pain is sometimes very difficult to relieve, and I hope the following suggestion may prove helpful.

Case: The patient, a stout female, age 42, complained of having suffered from severe pain in the lumbar region for a period of three weeks. This had followed sea bathing, when the water was very cold, and had been little, if at all, relieved by various local applications which had been made.

I exposed the entire affected region to *infrared rays*, at a distance of 20 inches, for 15 minutes, in order to increase the blood supply in the skin. I next applied Guimenthol (guaiacol, gr. 40; methyl salicylate, gr. 40; menthol, gr. 3; lanum and petrolatum, q.s.) freely and followed this by a 20-minute treatment with the radiant heat-light lamp (1,500 watts), at a distance of 30 inches. Three (3) such treatments relieved the pain completely. No oral medication of any sort was used.

A specimen of urine, received the morning after the first treatment, had a *distinct odor of menthol*. This indicates that it is possible, by the employment of radiant heat and light, to introduce various volatile (and possibly other) medicaments into the circulation through the skin, thus avoiding the digestive disturbances which frequently follow the administration of certain remedies by mouth.

W. THOMAS CLARK, M.D.
Philadelphia, Pa.

Calcium in Varicose Ulcer of the Leg
(A Case Report)

MRS. *N. B. R.* (seen Nov. 11, 1925), age 59, stands at an outdoor market all day. For years she has worn an elastic stocking for varicose veins of the right leg. Has had pyelitis quite severely (in July) and pus is still present in the urine.

About seven weeks before calling me she had injured her right leg, which is now hard, inflamed and painful. She was put to bed and several remedies tried; was in bed about six weeks. The ulcer was entirely healed Jan. 25, 1926.

June 11, 1927: The right leg was breaking down again and was very painful. It gradually grew worse and, by July 30, looked very bad. She had been on her feet constantly. She spent about a month in bed, this time, before recovery.

Sept. 19, 1928: Patient called regarding a badly swollen and painful right knee, the result of a fall a week previous. In the early part of July she had injured the right shin bone, an ulcer resulting which had given her much pain. The surrounding tissue looked very unhealthy. I touched the ulcer with 5-percent silver nitrate.

October 4: Patient's blood pressure, 170/98. Static electricity was applied to the knee and the ulcer; I also applied the $AgNO_3$ again. The ulcer looked slightly improved, but was still very painful.

October 17: She reported that the ulcer looked much better after the last treatment, until a few days ago, when it became much worse. The surrounding tissue looked about ready to break down and was very painful. I applied Chloro-Calcium (elixir cal-

cium chloride, Sharp & Dohme) as a dressing, and also prescribed one dram (4.0 cc., containing 5 grains—0.325 Gm.—calcium chloride) by mouth, three times a day.

October 23: A very marked improvement was apparent in the surrounding skin and the ulcer was almost healed.

October 30: The blood pressure was 140/80, and the patient reported that the ulcer was entirely healed on October 26. The pain was entirely relieved and the leg can be moved freely in bed without pain, for which the patient was extremely grateful. She went about her housework, so that rest was no factor in the healing. The dilated veins have contracted and the surrounding tissue has a more normal appearance.

JESSIE M. MCGAVIN, M.D.
Portland, Ore.

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[The idea of using calcium in the treatment of chronic or recurrent ulcers and also in high blood pressure is not a new one, but reports of personal experience, like this, always stimulate interest.

Some observers believe that the addition of parathormone or other parathyroid preparation hastens the healing process and makes it more permanent, by fixing the calcium in the tissues.

A number of writers have expressed a preference for calcium lactate, rather than the chloride, combined with lactose and given *on an empty stomach*. Several preparations of this sort are available.

Calcium is well worth trying in the treatment of leg ulcers and hypertension.—ED.]

The American College of Surgeons

IN *HIS* presidential address before the American College of Surgeons, at the 1928 meeting held in Boston, in October, 1928, Dr. F. H. Martin sketched the origin, development, scope, activities and present status of the College. There is now a membership of 8,200 surgeons of the United States, Canada, Central and Southern America, Australia and New Zealand. The work of the College parallels, on the North American continent, the work of the Royal College of Surgeons of England, Ireland, Edinburgh, and of similar societies in other countries. The expenditure budget of the College for 1928 amounted to $155,000, the funds coming from the dues paid by Fellows of the College.

The initiation fee to the College is $100.00, the annual dues $25.00. The endowment fund now stands at $802,000 and the property of the College in Chicago is valued at $1,250,000.

The ideals and standards of the College have been accepted by nearly 2000 hospitals in the countries named above and are stated to be enthusiastically welcomed by surgeons, internists, medical schools, medical associations and nurses, as well as by the lay public.

An Inexpensive Working Library for the Practitioner

A *FILE* of bound volumes of CLINICAL MEDICINE AND SURGERY, for the past four or five years, together with a few basic textbooks, constitutes a good, practical, working library for a general practitioner. During the last few years, this journal has given information upon almost every point which engages the practitioner's vital interest.

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Send for the index, in any case.—EDITOR.

Some Sound Resolutions

HERE are the official resolutions prepared by the Resolutions Committee of the Society for the Prevention of Cruelty to Physicians in regular meeting assembled.

RESOLVED:

That for every hour spent in a free clinic during 1928, I will spend but three minutes and sixteen seconds during 1929;

That promptly on the first of every month I will mail out statements to every soul who owes me money, and that every

thirty days thereafter I will get increasingly bolder until they pay up:

That, for the improvement of the profession and my own ease of conscience, I will tell each patient I send to a specialist the total cost of the treatment, including my own fee and that of the specialist, so that the evils of "fee-splitting" will be no more in the land; and

That I will begin to plan to make more *periodic health examinations*, realizing that to prevent is better than to cure—better for the patient's well-being and for my own method of practicing medicine.

—*Medical Pocket Quarterly*

Is There Progress in Therapeutics?

SOME ask the question, from time to time, "Has there been any real progress in therapeutics in the last 100 years?"

The department of Pharmacology of the University of Minnesota Medical School has prepared an answer to that question, in the form of a list of the *outstanding* contributions to therapeutics since 1844. This does not, of course, include all or nearly all of the valuable remedies which have been introduced during the past 85 years, nor several of importance which have come definitely before the profession in 1928, but it is sufficient to indicate that there has been real and enduring advancement along this line.

The list, accompanied by the name of the investigator who made the announcement, follows:

1844—Nitrous oxide anesthesia (Wells).

1846—Ether for anesthesia (Morton).

1847—Chloroform for anesthesia (Simpson).

1861—Amyl nitrite for angina pectoris (Lauder Brunton).

1869—Chloral hydrate, first synthetic soporific (Liebreich).

1875—Digitalis glucosides prepared (Schmiedeberg).

1876—Salicin and salicylates for rheumatism (Machagan and Strickler).

1882—Paraldehyde, soporific (Cervello)

1884—Thyroid extract for myxedema (Schiff). Cocaine as local anesthetic (Koller).

1888—Sulphonmethanum (sulphonal) and sulphonethyl methanum (trional) (Baumann and Kast).

1890—Acetanilid, acetphenetidin and antipyrin as antipyretics (Gottlieb). Diphtheria antitoxin (Behring and Roux).

1892—Tetanus antitoxin (Behring and Kitasato).

1898—Epinephrin isolated (Abel).

1900—Crystalline epinephrin prepared (Takamine).

1903—Barbital (veronal), soporific (Fischer and v. Mering).

1904—Acriflavine, antiseptic and trypanocide (Ehrlich and Shiga).

1905—Magnesium sulphate, subcutaneously, for tetanus, strychnine poisoning and convulsive disorders (Meltzer and Auer).

1906—Procaine (novocaine) synthesized (Einhorn).

1908—Exact use of digitalis for persistent cardiac arrhythmia (auricular fibrillation) (Mackenzie). Cinchophen (atophan) for gout, arthritis, etc. (Nicolaier and Dohrn). Emetin for amebic dysentery and abscesses (Rogers).

1910—Procaine (novocaine), safe local anesthetic (Einhorn). Arsphenamine (salvarsan) for syphilis (Ehrlich). Phenolsulphonphthalein as a kidney function test (Rowntree and Geraghty). Crystalline strophanthin (ouabaine) as a heart stimulant (Thoms).

1911—Ethyl hydrocuprein (optochin) antiseptic, specific against pneumococcus (Morgenroth).

1913—Meningococcus antitoxin (Flexner).

1914—Esters and soaps of chaulmoogra oil for leprosy (Heiser and Rogers). Neoarsphenamine (neosalvarsan) specific against syphilis (Ehrlich).

1915—Sodium hypochlorite, antiseptic for wounds (Dakin).

1916—Digitalis used in very large doses in cardiac disease (Eggleston).

1918—Crystalline thyroxin prepared (Kendall). Quinidin for auricular fibrillation and flutter (Frey).

1919—Mercurochrome, antiseptic (White and Young).

1920—Novasurol, diuretic (Saxl and Heilig). Iodides in prevention of goiter (Marine). Butyn, powerful local anesthetic (Adams).

1921—Bismuth for syphilis (Sazerac and Levaditi).

1922—Tryparsamid for African sleeping sickness (Pearce and Brown) and for neurosyphilis, 1923, (Loevenhart and Lorenz). Rivanol, antiseptic (Morgenroth).

1923—Homocamfin (Hexeton), respira-

tory stimulant (Gottlieb). Stovarsol (acetarsone) for amebic dysentery (Fourneau). Ethylene as general anesthetic (Luckhardt). Insulin (Banting and MacLeod).

1924—Ephedrine as vasoconstrictor, heart stimulant, asthma remedy (Chen). Sodium thiosulphate for arsenic and mercury poisoning (Macbride and Dennie). Tutocaine as local anesthetic (Schulemann). Hexylresorcinol as antiseptic for urine (Leonard). Serum for scarlet fever (Dick and Dick, Dochez). Parathyroid extract to raise blood calcium (Collip).

1925—Euphyllin and theobromin for angina pectoris. Synthalin for diabetes (Frank). Magnesium sulphate for uremia (Blackfan).

1926—Ketogenic diets and NH_4Cl for epilepsy (Peterman). Irradiated cholesterol for rickets (Hess and Steenbock).

1927—Liver extract for pernicious anemia (Minot). Bismuth subnitrate to lower blood pressure (Stieglitz). Preparation of crystalline insulin (Abel).

Cystoscopy Twenty Years Ago

DR. *DU BOIS* is perfectly right in his criticism of my note on cystoscopy (see CLIN. MED. & SURG., Nov., 1928, p. 826). My work was rather crude, I admit. What I neglected to state in my little article was that the work reported was done *twenty years or more ago*. Perhaps if my good confrere had known that he would have been more lenient with me.

In any case, I am glad that my brief note, from my memory of an interesting case, has brought out these helpful comments by Dr. Du Bois.

FRANK M. JOHNSON, M. D.
Freeport, N. Y.

Notes for the Practitioner

ANAEROBIC, polyvalent antitoxin (100 to 200 cc. intravenously) may be tried in cases of gangrenous appendicitis and intestinal obstruction.

Acetylsalicylic acid, 5-grain doses every 3 hours, given three days after the injection of antitoxin, may prevent symptoms of serum sickness.

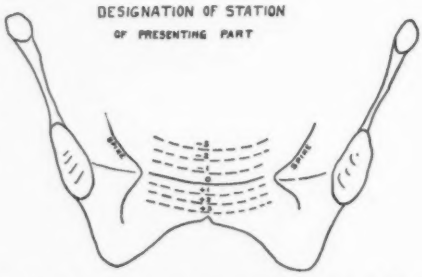
Mild silver protein solution is an excellent general antiseptic. Use a 10- or 20-percent solution for wounds.

In acute heart failure, try 1/6 grain of morphine, hypodermically, followed in one-half hour with an intravenous injection of 1/240 grain ouabain (strophantus).

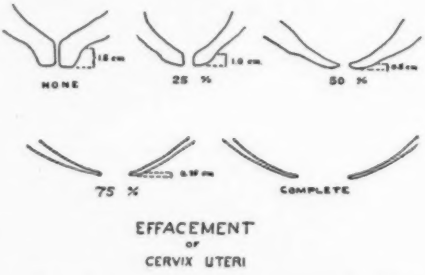
Furuncles of the nose, auditory canal or upper lip should never be incised, on account of the danger of cavernous sinus thrombosis.—DR. M. W. THEWLIS, in *Med. Times*, Oct., 1928.

Recording the Progress of Labor

IT IS of great importance to physicians who do clinical research work, to keep careful records; and detailed accounts of the progress of labor are frequently of great value.



In the obstetric department of the Minneapolis General Hospital, they have two charts, devised by Dr. Robt. E. McDonald, which simplify and clarify the keeping of such records. They show, graphically, just what is meant by the position of the presenting part in the pelvis and the degrees of effacement of the cervical canal. The extent of cervical dilatation is recorded in centimeters.



By reference to these charts no physician should have any difficulty in recording intelligibly the progress of labor in any particular case.

GEO B. LAKE, M.D.,
Chicago.

Education must give not only power but direction; it must minister to the whole man or it fails.—Coolidge.

Bronchial Asthma Treated with Ephedrine

(A Case Report)

THE following case is reported mainly because it was so refractory to the usual treatment for bronchial asthma and because the patient improved so rapidly after the oral administration of ephedrine.

The patient is a white school boy and is fifteen years old, weighs 135 pounds and is 5 feet 10 inches in height.

His main complaint was frequent attacks of wheezing, difficult breathing and some coughing. During these attacks his blood showed marked eosinophilia. When the paroxysms were quite severe he would have a temperature ranging from 101° to 103°F. Examination while he was having such an attack would reveal wheezing respiration, prolonged expiration and sibilant rales.

Thorough physical examination showed that he had no foci of infection anywhere, such as infected tonsils or adenoids, infected teeth, etc. His chest is somewhat round and hyperresonant. The cardiac area was slightly diminished and the lung-liver boundary somewhat displaced downward.

A skin test for proteins was never made. Every time such a test was offered him he positively refused it. His mother, who is quite an intelligent woman, states in this connection, that every time he was near horses he would have a severe asthmatic attack. She felt that he had a definite sensitiveness to horse dandruff. No nasal obstruction or irritation were ever found. Kidney specimens were often obtained and were always found normal.

As an infant he was bottle fed. At the age of two years he was noticed to have asthma for the first time. It acted like a common cold, and he would have recurrences of this condition every five or six weeks; also, immediately following any sort of excitement or rather vigorous playing, he would show some wheezing.

At the age of three years he had these wheezing attacks mostly in the summer time. At six years of age he had whooping cough and received the pertussis vaccine: The illness was rather mild. At seven years of age he had asthmatic attacks mostly in the summer: after that he had them as much in winter as he had in summer.

At eight years of age he had had diphtheria and responded quickly to antitoxin. At ten years of age he had scarlet fever which was quite severe, but was without complications. At eleven years of age his asthma became progressively worse. His coughing during the paroxysms was very severe and he was then quite cyanosed. At that time I sent him to a sanatorium for a thorough examination of his lungs. The examining physician there reported to me that there was no pulmonary disease.

At twelve years of age he had lobar pneumonia and at thirteen years he had pleurisy for a week. Shortly afterwards he experienced his attacks so frequently and became so uncomfortable that he was sent to New Mexico. He was there for nine months and his condition improved greatly. He had but few mild wheezing attacks and never any severe coughing.

About a year ago a roentgenogram was taken of his lungs and it was negative. The Wassermann test was also negative.

Treatment and Progress

Autogenous vaccines and various drugs have been given him for asthma and most of them have proven ineffective.

When he was free from attacks, autogenous vaccine (made from his sputum at the time of his seizures) was given him, but without any noticeable benefit. Because he objected to being desensitized with horse epithelial foreign protein, that was not done. The iodides were used for a time, for their stimulating effect upon the bronchi with the object of liquifying the mucus as much as possible. Digitalis was given for a period of time, to benefit his circulation. Calcium was also given him for a time, on the supposition that the hypersensitization was due to a disturbance in calcium metabolism. No benefit was noticed.

In treating the paroxysms a number of drugs were also tried. Morphine was used twice, and so were codeine and the bromides, to abort and shorten the attacks, and they all helped to some extent. Epinephrin was used and was reasonably successful, but it had to be given with a needle to be effective and that, in time, became objectionable. All the above drugs were found to be unsatisfactory in some way, either because they were habit forming, that they had to be given hypodermically or that the patient showed an intolerance to them.

While using these drugs the patient's

condition had not improved: In fact, he was getting worse. His attacks were becoming more severe and much more frequent. During school time he was absent over fifty percent of the term. Fortunately, he was exceptionally bright and made progress notwithstanding. Later, and up to a year ago, his attacks became so severe that his mother was much concerned.

At this time I began giving him ephedrine by mouth. Its effects were striking and very gratifying. He has been taking the drug for the past twelve months, and during that time he has not experienced any typical asthmatic attacks. He is now gaining in weight and is developing normally. Whenever he feels slightly wheezy he takes a tablet of ephedrine hydrochloride, ½ grain (32 mgm.). Should he neglect to take the tablet early enough, he may become slightly asthmatic, in which case he takes a half-grain tablet every four hours. He has never found it necessary to take more than three such doses. He has not been confined to his bed for a single day since he has been using ephedrine.

The treatment of bronchial asthma with ephedrine is, of course, symptomatic. The outstanding advantage of ephedrine over epinephrin is that it can be given by mouth. It promptly relieved this patient and its action was quite prolonged. When it was administered early enough it invariably prevented attacks. When it was given while his attacks were rather noticeable it prevented them from becoming severe. Since the patient has been taking ephedrine, when needed, he has not been incapacitated from asthma and has not lost a day from school.

WALTER L. MIGELY, M.D.,
Naperville, Ill.

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[If, as suggested by Adam, Haseltine and others, bronchial asthma always rests upon a basis of toxicosis (and their reports and arguments are impressive), it would be well, in this case, to make an exhaustive search for the source of the poisoning, especially in the nasal accessory sinuses and the intestinal tract.

Meantime, if ephedrine will give relief, surely and safely, there seems to be no excuse for permitting this or any other asthmatic patient to suffer needlessly.—ED.]

The Antivaccinationist in Action

A *RUMOR* has been current in Middletown, Connecticut, to the effect that a woman had such a violent reaction from vaccination that she had gone to the hospital and expected to have her arm amputated. When friends heard the rumor and called up members of her family to ascertain the facts, they were told that the woman had no trouble with her vaccination and that it was almost healed, but she had gone to the hospital for another condition from which she had suffered for a long time and that was not affected in any way by vaccination.—Conn. State Health Dept. *Bulletin*, Feb. 14, 1928.

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[This is a fair sample of the way in which people who, otherwise, are honest and well-meaning will behave when they become obsessed by the antivaccination psychosis. Practically every report like this is started by some misguided enthusiast and, when investigated, proves to be wholly false or grossly exaggerated.—ED.]

(Continued from page 49)

pressure which, for many years, had been about 175mm., systolic, rose to 220 mm.

Examination: In August, 1928, an exhaustive examination of all organs showed no abnormalities whatever, except a greatly dilated stomach and a 4 plus Wassermann reaction. This latter finding was confirmed by two other laboratories.

Treatment: The patient was given arsphenamine and mercury, but the former drug, after the second dose, caused violent gastrointestinal symptoms.

Progress: At the end of the first week of treatment, the headache and joint stiffness had disappeared. After one month, the systolic blood pressure was 170 mm. and the violent throbbing of the heart had ceased. On November 1, while not fully restored in strength, the patient is feeling well and has resumed his practice, but the Wassermann test is still 4 plus.

Requirement: (1) Is this a case of syphilis, or merely a positive Wassermann reaction? (2) Why? (3) If syphilis, how was it contracted? (4) Treatment recommended.

THE LEISURE HOUR

Specialism

Brown consulted the telephone book and blithely called the number of the first listed garage.

"I am having trouble with my car. Please send a man at once."

"Something wrong with the carburetor?"

"I don't know. I - - - -"

"We are carburetor specialists. We do not touch anything else." The telephone clicked. Undaunted, Brown called the second number.

"Front axle?"

"No. I - - - -"

"Call our downtown office for rear axles. We are axle specialists."

Grumbling a little under his breath, Brown called the third number. "Engine trouble?" asked a sweet voice.

"Engine seems all right." Brown was rather proud of knowing a little about the engine. He found that part of his car rather fascinating.

"We handle only engine trouble." She rang off.

Angry now, Brown called another number. "What is the matter with the brakes?" asked a gruff voice.

"What do the brakes matter when I can't start the car?" asked Brown in what he meant to be a withering way.

"We are brake specialists." The connection was severed. Brown felt weak, as if he might weep, but he called the last number in the book.

"What is the matter with your car?" asked a sympathetic voice.

"It won't go," explained Brown.

"This is a gas station and I am new here. Maybe you are out of gas. You might look."

Brown put his ruler down into the tank. "Dry as a bone," he confided joyfully to the sympathetic one.

"Too bad. Drive her down and I will fill her up for you."

But Brown let the receiver fall from his nerveless hand. He had fainted.

—*Union Mutual Messenger*

Believe It or Not!

You will remember that it was yellow fever that prevented the French engineers from building the Panama Canal, as for every 100 people living in this zone 170 to 350 died each year from yellow fever.—Medical column in a Waterbury (Conn.) paper.

Primordial Hunger

If I were an ameba
And you were an euglena,
I would pursue you
For a thousand millimeters,
Until I caught you,
And embraced you,
And absorbed you,
And made you all my very own.
Thus would we two be one,
Living in our crystal drop of water
Until the seconds of our life had sped—
And I would die content.

—"P. D. Gog", in the *Chicago Post*

Par at Last

A doctor who is noted for his obesity treatment received the following letter from a golfing patient:

"Dear Doctor: That diet you put me onto is working wonders. Yesterday for the first time in months I holed out the penultimate button of my dress waistcoat."—*London Daily Chronicle.*

Friend: "I understand that your practice is getting larger."

Young Doctor: "That's true. My patient has gained nearly ten pounds in the last few weeks."—*Boston Transcript.*

Diagnostic Pointers

Cholesterol, the Endocrines and Arteriosclerosis

Arteriosclerosis begins as *atheroma*, which latter results from a deposit of fatty substances (chiefly cholesterol and its esters) in the intima of the arteries.

Experiments upon animals have shown that a diet high in cholesterol (given in the form of lanolin) results in the development of atheroma, and that this process is materially hastened if the functions of the thyroid, spleen or gonads (but not the suprarenal glands) are interfered with.—DR. S. SHAPIRO, in *Endocrinology*, Aug.-Sept., 1927.

Epileptics Sensitive to Proteins

Protein sensitization tests, made on 1,000 epileptics and 100 normal controls, showed that, of the former, 37 to 56.8 percent were hypersensitive, while only 8 percent of the latter were thus affected.—DRS. WARD AND PATTERSON, in *Arch. Neurol. & Psychiat.*, April, 1927.

Prognosis in Schizophrenia (Dementia Precox)

Other things being equal, an acute, stormy onset is a favorable sign in schizophrenia.

When the total reaction constitutes a psychotic escape from an impossible situation in life, the prognosis may be favorable, even when the clinical aspect is not promising.—DR. ISADOR H. CORIAT, in *Bost. M. & S. J.*, Dec. 22, 1927.

Ultraviolet and the von Pirquet Test

Exposure to ultraviolet rays diminishes the sensitiveness of the skin to the von Pirquet test, in known tuberculous subjects, over the parts exposed, but not on the unexposed skin.

It would seem that no relation exists between allergy, as shown by this test, and immunity, as evidenced by resistance to infection, for this latter is known to be increased by the ultraviolet rays.—DRS. P. WORINGER and ADNOT, in *Rev. Franc. de Pediat.*, 3:204, 1927.

The Thyroid Gland and Metabolism

Thyroid gland administration affects the *growth processes* of the *normal* child, while the basal metabolism is unaffected by it; in the *adult*, whose growth processes are complete, the basal metabolism is increased in the persons whose catabolisms are such as to allow further increase.

It is believed that this theory fits in with the paradoxical fact that the cretin, under thyroid therapy, retains nitrogen, while the normal adult, under the same treatment, loses nitrogen.— DRS. R. TOPPER and P. COHEN, in *Am. J. Dis. Child.*, Feb., 1928.

Syphilis and Surgery

In three out of eleven surgical operations detailed, the patients were submitted to unnecessary operations, which in two cases involved a mutilation, all on account of the surgeon not being sufficiently acquainted with the manifestations of syphilis. In one case a tumor of the testis was diagnosed as sarcoma and the patient castrated. The tumor was a gumma.—DR. V. MEISEN, Copenhagen, in *Urol. & Cutan. Rev.*, December, 1927.

Detection of Ringworm Hairs by Fluorescence

Under the rays of a mercury vapor or tungsten arc lamp, passed through Wood's glass (a dark-violet glass containing oxide of nickel), normal hair fluoresces very slightly; while hairs infected with ringworm show a brilliant, greenish fluorescence.

This test is of value in detecting small groups of infected hairs and in determining whether epilation after thallium acetate (see CLIN. MED AND SURG., Dec.,

1927, p. 943) has been complete, or whether a few infected stumps remain; it is also helpful in determining whether the siblings or associates of the patient are also infected.—Dr. A. C. Roxburgh, in *Brit. J. Dermatol.*, Aug.-Sept., 1927.

Hot Baths and Pityriasis Rosea

The prevalent habit of hot water bathing, by denuding the skin of its protective covering, may have something to do with the present prevalence of pityriasis rosea. —Dr. A. Davidson, in *Urol. & Cutan. Rev.*, Feb., 1928.

The Endocrines and Race

The main points in which races of mankind differ are stature, color of hair, color of eyes, proportional length of arms and legs to the trunk, and those other peculiarities of build which are to be found in the individual races.

Stature is largely determined by the behavior of the pituitary and the thyroid during the early years of life and adolescence.

What we become during adolescence is controlled by the way our endocrine organs do their work and the resulting pattern which is formed.—Dr. Ivo Geikie Cobb, London, Eng., in *Am. Med.*, Jan., 1928.

Catheter Cystitis

The use of a catheter is frequently unavoidable, and it is not its use but its *abuse* that causes trouble.

"Catheter cystitis" should be called what it really is—surgeon's cystitis.—Dr. Hugh Cabot, Ann Arbor, Mich.

"Imaginary Pain"

There may be some few unfortunate patients who say they have pains when they do not have pains, but even these people cannot be said to have imaginary pains, nor can they be ignored on the ground that there is nothing the matter with them. No one asserts that he is suffering when he is not, unless he feels that there is something to be gained thereby, and one who has need of such an alibi or defense is the victim of a neurosis which merits psychiatric attention.

One person cannot safely assert that another person has no pain, because he cannot prove it; but if he says that a pain is "imaginary" he is assuming a paradoxical condition which, for all practical purposes, is impossible.—Editorial, *M. J. & Record*, April 4, 1928.

Chronic Urethral Discharge

If a urethral discharge persists and a patient constantly has pus in the second and third glasses ("3-glass test"), there is undoubtedly infection in the prostate, seminal vesicles, or even in the upper urinary tract. —Dr. Daniel N. Eisendrath, Chicago.

Infection Psychoses

In mild psychoses, a temperature of 99° to 100°F. suggests an infection as a cause. —Dr. James N. Brawner, Atlanta, Ga.

Diagnosis of Toxemia of Pregnancy

The presence of pregnancy toxemia is indicated by the following signs, in order of their importance.

1.—A systolic blood pressure of 140 mm. or above, or any sudden rise from the patient's normal.

2.—Albumin, casts, or both, in the urine.

3.—Headaches with sudden onset.

4.—Epigastric pain.

5.—Edema (of toxic origin).

6.—Diminished urinary output.

7.—Ocular symptoms.

8.—Eyeground findings..

9.—Nervous irritability.

10.—Abnormal blood chemistry findings (of little aid unless accompanied by symptoms).—Drs. H. A. Miller and D. S. Martinez, in *Atlantic M.J.*, Dec., 1927.

Hematuria

If, in hematuria, the patient passes a worm-like clot, the hemorrhage is undoubtedly of renal origin.—*Urol & Cutan. Rev.*, Oct., 1927.

Current Medical Literature

Measles Streptococcus Toxin and Antitoxin

In 1926 Ferry and Fisher described a measles toxin and antitoxin prepared from a streptococcus, which they called the *Streptococcus morbilli*, isolated by them.

In J.A.M.A., Oct. 27, 1928, Ferry and associates present a clinical report of the use of this toxin and antitoxin. The clinical investigations were made in the Children's Hospital and Herman Kiefer Hospital, Detroit, and in the Children's Convalescent Home, Farmington, Michigan.

As it had been previously found that 5 cc. doses of this measles antitoxin did not suffice to protect against measles, doses of 10 cc. and 20 cc. were administered in the new clinical tests.

At the Children's Hospital, where 20 cc. dosage of measles streptococcus antitoxin was used, 88 percent actual protection (as judged by untreated controls) was obtained.

At the Herman Kiefer Hospital, where the patients with 10 cc. of antitoxin were controlled by untreated cases, as well as by a number of patients treated with 5 cc. measles convalescent serum, the computed actual protection afforded by the measles streptococcus antitoxin was 42 percent.

At the Children's Convalescent Home, where the susceptible individuals were picked according to their skin reaction toward measles toxin, the positive skin reactors being considered susceptible, the computed actual protection when compared with untreated controls was 67 percent.

The average computed protection shown in the three series of cases in the three institutions was 66 percent; in the two institutions where the dose was 20 cc. the protection was 78 percent. The protection is far superior to that afforded by measles convalescent serum.

Acriflavine for Psoriasis Vulgaris

In *Strahlentherapie*, June 1928, p. 268, Dr. M. Oppenheim, Vienna, states that he has observed that intravenuos injections of acriflavine have been followed by hyperpigmentation of the skin, especially about the face and hands. In one patient of this type acriflavine treatment had the effect of obviating a more or less intense efflorescent erythema which he usually suffered from on exposure to summer sunlight.

Dr. Oppenheim, believing that the sensitization of the skin by acriflavine could be utilized, in the case of any disease in which light and ultraviolet rays had an influence, thought that a combined acriflavine-light treatment would be effective. Such combined therapy should be of value in psoriasis vulgaris, acne vulgaris, lichen ruber planus and pemphigus vulgaris chronicus. Since June 1927, Dr. Oppenheim has treated 25 cases of psoriasis vulgaris in this way and 9 of these patients have been shown before the Vienna Dermatological Society. These cases included all types of the disease, acute, subacute and chronic, disseminated and diffuse, generalized and isolated. In 3 cases the treatment had to be suspended on account of vomiting after the injections; in 1 case there was no improvement after 8 injections; but in the remaining cases, the patients, old and young and of both sexes, withstood the injections without any ill effects and a complete disappearance of the psoriasis efflorescence generally followed, the healing being with a distinct pigmentation.

Treatment was commenced with an injection of 0.05 Gm. acriflavine (5 cc. of a 1-percent solution) intravenously. If this injection was well tolerated another was given the following day (5 cc. of a 2-percent solution). As a rule, tri-weekly injections were given up to a total of from 15 to 26 injections. Phlebitis was not observed in any case. A yellow urine may persist for 14 days after the last injection. The desquamated areas were washed daily and treated with 5-percent borated vaseline. The daily quartz lamp raying was at first confined to the front and back of the body but later was applied to the flanks as well. Results when the raying was omitted were not so good. The author concludes that combined acriflavine-ultraviolet-boric salve and bath treatment of psoriasis vulgaris gives an excellent therapeutic result.

Antitoxin and Serum in Scarlet Fever

Dr. John A. Toomey, in J.A.M.A., November 24, 1928, finds, from a survey of the literature, that there are only about a dozen articles on the antitoxin and serum treatment of scarlet fever giving details of results with proper controls. The general conclusions reached by the majority of these writers are that, in the treated case, the rash disappears earlier, the temperature declines more quickly, the patient is less toxic and recovers sooner, and the rate of complications is lessened.

The author calls attention to a fact ignored by many authors; that is, a consideration of the distressing serum sickness occurring with or after the administration of antitoxin. The statistics of several writers on this point are given and the author's personal experience is that in most of their treated cases there was far more illness from the effects of serum sickness than from the scarlet fever. He does not think it worth while, in the face of the mildness of the present type

of scarlet fever, to give these patients serum sickness in order to have them recover from the ordinary symptoms a day or two earlier than they ordinarily would. The fate of antitoxin treatment, the author believes, will ultimately be settled only in an epidemic with a high mortality rate.

Although the author is not much impressed with the value of antitoxin, either in treatment or prophylaxis, yet he is extremely enthusiastic about the results he has obtained by the active immunization of susceptible patients (only about 35 percent, on the average, of exposed patients may be considered susceptible) in the manner and according to the methods advocated by the Dicks. The routine method has practically eradicated scarlet fever among the resident population of the author's hospitals.

The Use of the "Grenz" (Infra-Roentgen) Rays in Dermatologic Conditions

Drs. J. E. Eller and Gustav Bucky, in *Arch. Dermat. & Syph.*, for Feb., 1928, report that the infra-roentgen rays have a range of wave length between the ultraviolet and the roentgen rays; they average a wave length of 2 Angstrom units and have certain biologic effects of great value in the therapy of certain skin diseases. They are called, by Bucky, "Grenz" or border line rays, the name referring only to the *biologic* action.

These rays have properties in common with both x-rays and ultraviolet, but also have biologic properties not belonging to either of these. Marked erythemas may be produced with the "Grenz" rays, without temporary or permanent epilation. Epitheliomas and sarcoids (among other lesions) have responded to this treatment.

These rays have also been called infra-roentgen, over-soft roentgen rays, etc.

Pollen Administered Orally

The results obtained with oral, as compared with hypodermic administration of various pollens, in cases of patients sensitive to hay-fever and asthma, are compared by Dr. J. H. Black, of Dallas, Texas, in an article in *J. Lab. and Clin Med.*, May, 1928.

The hay-fever cases treated orally and hypodermically were 73 and 61 respectively. One hundred percent results as regards protection were obtained in 13 of the first and in 15 of the second; seventy-five percent results in 25 and 33; and fifty percent results in 15 and 9.

The number of asthma cases treated orally and hypodermically were 18 and 32 respectively and, as in the hay-fever cases, the general results were better with hypodermic than with oral administration.

In several cases in both series the administration was changed from oral to hypodermic, either because of gastro-intestinal symptoms or because the patients were not improving.

There are certain advantages in the oral administration of pollen—it is entirely coseasonal; it can be carried on by the patient at home, under the physician's directions; it is unobjectionable as regards taste and there are no systemic reactions. But there are disadvantages—it is expensive, owing to the large amounts taken; it is less certain in its effects, and in some cases it is nauseating.

The general conclusion reached by the author, on comparing all the results, is that, while oral treatment with pollens has certain definite advantages, satisfactory protection is secured less often.

Significant Developments in Chemistry

We who are especially engaged in the alleviation of human suffering are prone to overlook the fact that the chemists are making many significant discoveries which now seem to have little to do with therapeutics. These matters may, however, have a profound effect upon our daily lives and should, therefore, be of interest.

In *Science* for November 23, 1928, Arthur D. Little, of Cambridge, Mass., tells of the new method for the "cracking" of crude oil from which results, in addition to the well known gasoline and similar products, a wide range of secondary and tertiary alcohols (tertiary butyl, isopropyl and other alcohols—formerly laboratory curiosities), glycols, solvent esters and other substances, whose production, on a commercial scale, is of an importance to the progress of chemistry which most of us are unable to estimate.

In addition to these interesting substances, a high percentage of *ethylene* is produced. This gas, which is assuming such an important place in Medicine, as a general anesthetic, has the power of expediting the ripening of fruits and vegetables, which, when utilized on a large scale, may materially alter our dietary habits.

Another line of study which may affect human nutrition even more radically is the production of protein foods from yeast. It requires 100 pounds of foodstuff to produce 5 pounds of beef, and 3 acres of land to support a cow; but thousands of pounds of yeast protein can be developed and separated in a few hours, in a very limited space, by utilizing as culture media low-grade molasses and other waste materials which contain fermentable sugars.

The commercial production of amyl alcohols and their acetates has given us solvents for nitrocellulose, which, in turn, has resulted in the development of the lacquers and finishes which have made such notable changes in the appearance of our automobiles and the interiors of our homes.

These are a few of the ways in which chemistry is remaking the setting of our lives and even our lives themselves.

Standardizing Ultraviolet Dosage

There is urgent need for some definite means of measuring ultraviolet rays.

In *Arch. Phys. Therap., X-ray, Radium*, July, 1928, Dr. A. E. Schiller, of Detroit, states that, in the Clark method, in which lithopone is used as an indicator, the only difficulty to face is the acuteness of color sense of the experimenter.

Lithopone is a paint pigment which is practically insensitive to wave lengths of light longer than 3200 Angstrom units and whose sensitivity is practically uniform for wave lengths from 3000 to 2300 A. u. It shows no perceptible darkening when radiated through ordinary window glass. The amount of ultraviolet rays required to darken a uniform layer of lithopone at a certain distance is known as a lithopone unit.

An algebraic formula may be used to express dosage. Dr. Schiller states that the following formula has been found to work satisfactorily in calculating light dosages and distance in lithopone units:

Let D=distance desired.

And UD=the unit distance at which a lithopone unit is determined.

Then T=the desired time and UT=the unit time.

The following formula then holds:

$$\text{The dose} = \frac{D^2}{(UD)^2} \times \frac{T}{UT}$$

Suppose that we determine one lithopone unit at 20 inches distance and one minute in time. We desire to give 6 lithopone units at 18 inches distance. According to the formula, then, we have:

$$\frac{18^2}{20^2} \times \frac{6}{1} = 4.9 \text{ minutes.}$$

Suppose one lithopone unit is 30 inches x 3 minutes: We desire 6 lithopone units to 20 inches distance;

$$\text{Then } \frac{20^2}{30^2} \times \frac{6}{3} = 1\ 1/3 \text{ minutes.}$$

Serum Treatment of Lobar Pneumonia

In *J.A.M.A.*, Nov. 17, 1928, Drs. W. H. Park, J. G. M. Bullowa and M. B. Rosenbluth, of New York, state that the lessened mortality in lobar pneumonia at Harlem Hospital, New York, in a large series of cases treated with antibody solution, as contrasted with those untreated, is so great that, with the support of recent similar results at the Bellevue and New York hospitals, they consider that the value of the antibody in the treatment of type I lobar pneumonia cases is proved.

In lobar pneumonia caused by type II pneumococci, it was found that only in early cases would an ordinary therapeutic dose of antibody surely neutralize all the soluble type II specific substances. The mortality in the past two years was 22 percent less in the treated than in the untreated cases.

In the type III cases the specific antibody had only a slight effect in neutralizing the specific soluble substance and the therapeutic results were very slight, if any.

About 50 percent of the group IV pneumococci (which form about 40 percent of the whole) can be split up into many types which are as distinct from each other as types I, II and III. An attempt is being made to prepare a polyvalent antibody for these with the potent refined antibody solution for types I and II, which has no apparent deleterious effect in the majority of persons suffering from lobar pneumonia and which has a potency of from five to ten times that of the unrefined serum; also if an antibody solution for the type IV group can be worked out, as hoped, about 70 percent of all the cases should be hopefully treated.

The U. S. Hygienic Laboratory should insist that the potency of antibody solutions put out by biologic manufacturers should be clearly stated for the different types for which the preparation is offered.

Therapeutic Value of B. Welchii (Perfringens) Antitoxin

In 1926, Williams, of London, Eng., reported a spectacular drop in the mortality from appendicitis and intestinal obstruction by using *Bacillus welchii* antitoxin.

In *Am. J. Med. Sc.*, July, 1928, Drs. J. O. Bower and Jefferson Clark give the results of this treatment in 25 cases, comprising some of advanced, septic, diffuse peritonitis and organic intestinal obstruction, associated with profound toxemia.

Of 11 cases of acute, suppurative, diffuse peritonitis, 5 were operated upon immediately and the antitoxin administered at once after the operation. The mortality in this group was 40 percent. In the remaining 6 cases, antitoxin was administered, Ochsner treatment instituted and operation deferred. There was no mortality. Similar results were obtained in other groups of cases.

Forty (40) cc. of the old, unconcentrated serum (20 cc. of new) were given intravenously, followed in 8 or 12 hours by a similar amount, either intravenously or intramuscularly. Further injections were given if the temperature had not fallen, or if the toxic or other symptoms warranted it.

The *B. welchii* is an anaerobe found in the human intestine and is the only one found there that produces a toxin.

Although their series of cases is small, the authors feel that they can confirm the work of Williams, and they consider that the perfringens antitoxin is a therapeutic agent of value in acute intestinal obstruction and peritonitis assocated with toxemia.

Control of Cocaine Toxic Effect by Barbital Sodium

In the usual dosage procaine is not toxic, but occasionally there may be an idiosyncrasy to it, with serious reactions.

Dr. E. G. Martin, of the Harper Hospital, Detroit, in *J.A.M.A.*, Aug. 25, 1928, reports that, since 1926, he has been using 5 to 10 grains (0.3 to 0.6 Gm.) of barbital for most of his patients about to be operated upon under local anesthesia, in the belief that a good night's sleep would make them better patients. Confusion, restlessness and depression following anesthesia were found to be absent from these patients. Since reading Nielsen's article he has been satisfied that the good effects observed were due to the barbital and not to the sleep. Experimental investigations have verified this conclusion. In dogs, the convulsions and other phenomena induced by massive doses of cocaine were quickly controlled by intravenous injections

of soluble barbital, and this treatment could be repeated, if necessary.

The barbital preparation of patients prior to use of local anesthetics has now become almost routine among the laryngologists of the Harper Hospital, with almost entire absence of post-anesthetic disturbances. Ten (10) grains (0.6 Gm.) of sodium barbital, given by mouth about one hour before operation, will prevent the development of serious toxic symptoms in most instances. Dr. Martin has also given his own patients 10 grains the night before operation.

The procedure is based upon the belief that the poisonous effects of cocaine are located in the cerebrum and that such effects can be prevented by hypnotics.

Ether Anesthesia as a Cure for Tuberculous Peritonitis

Although surgery does most for tuberculous peritonitis, yet it is not felt to be a satisfactory treatment.

In *Anesthesia and Analgesia*, May-June, 1928, Dr. W. E. Savage, Cincinnati, states that, in 1908, he operated upon a patient under ether anesthesia. Laparotomy showed extensive general tuberculous peritonitis and, as nothing further could be done, the abdomen was closed. The patient immediately improved, convalescence was rapid and cure has been complete.

Study of this case finally led the author to conclude that the ether anesthesia alone was responsible for the cure. In seven other cases, treated since then, by ether anesthesia alone, 6 patients recovered and one died. Further pathologic studies led to the fact that in tuberculous peritonitis there are three stages: the primary stage of passive congestion; the secondary stage of small, isolated, glistening tubercles; and the tertiary stage of large grey tubercles which tend to caseate and coalesce.

The first and second stages are *vascular* and are apparently relieved by ether anesthesia. No change has been noted nor does the author believe it is to be expected from ether anesthesia in the third, nonvascular, stage. The fatal case in the author's series was of this tertiary type.

The closed cone (rebreathing) method of ether anesthesia is employed, ether being given for from 30 to 50 minutes, depending upon circumstances. The earlier the anesthesia method is employed, the better the results.

Dextrose Administered Intraperitoneally

There are certain inconveniences and reactions connected with the intravenous or subcutaneous injection of dextrose which it is desirable to avoid.

In *Am. J. Dis. Child.*, Sept., 1928, Drs. C. G. Grulee and H. N. Sanford, of Chicago, refer to reports in literature of the intraperitoneal injection of dextrose, which, while otherwise satisfactory, was accompanied by the risk of toxic shock. This effect was apparently due to the fact that solutions of dextrose, as ordinarily prepared, rapidly become acid. Buffering such solutions reduced the tendency to acidification but was not quite satisfactory.

The authors finally found that acidification could be obviated by autoclaving the dextrose dry and adding sterilized water to it, the solution being used immediately. Intraperitoneal injections of such a dextrose solution in dogs were not accompanied by reactions.

Intraperitoneal injections of dextrose solutions, prepared in the manner stated, were made in 76 young children in various conditions, 432 injections being given, with 7 deaths. It is doubtful if any one of these deaths could have been hastened by or attributed to the dextrose.

The authors are of the opinion that 5-percent dextrose solution, given intraperitoneally, may prove a valuable therapeutic measure in a variety of conditions, provided that the dextrose is sterilized in the dry state and the solution made up immediately before using.

Ultraviolet Emanations from Irradiated Phosphatids

In *Presse méd.*, Paris, Sept. 12, 1928, Drs. C. Serono and A. Cruto report that following some experimental work they find that cerebrin, lecithin and chlorophyl, substances at the basis of all animal and vegetable life, have, all three, photogenic properties following ultraviolet irradiation or exposure to sunlight. After irradiation they are capable of affecting a photographic plate at a distance.

Since cholesterin is constantly united to lecithin, both in vegetable and animal life, it apparently possesses a protective power over lecithin, explained probably by the fact that cholesterin would protect lecithin against too intense absorption of ultraviolet rays and prevent its too rapid exhaustion of emanatory power after having been irradiated. Cholesterin acts as a kind of insulator and fixation agent.

The energetic metabolic action of injected lecithin might be explained on the basis of its property of limiting the emission of energy. Experiments have shown that lecithin acts as a catalyser.

Insulin

The invention of insulin is undoubtedly the greatest medical achievement of the present century; however, it is only the first milestone on the road leading to the cure of diabetes. This road cannot possibly be traced without exact knowledge of the bacterial flora which play a prominent part in certain unexplained chemical processes.—Dr. G. Arany, Carlsbad, Germany, in *M. J. & Record*, May 16, 1928.

Diathermy in Pneumonia

Reports received from all parts of the country and from abroad show a steady increase in the use of diathermy in pneumonia, and the symptomatic value of this treatment has been for some time definitely established.

In *Arch. Phys. Therap., X-Ray, Radium*, Oct., 1928, Dr. H. E. Stewart, New Haven, Conn., states that after six years' experience with diathermy in this disease he feels able to make a

definite claim, fully substantiated, for a lessened mortality in treated cases. The mortality in cases treated before the third day is almost nil. The mortality rate in all cases treated, a majority being serious, was 12.1 percent.

Treatments are given every four hours, with electrodes sufficiently large to cover the involved area anteriorly and posteriorly, at 1400 to 1800 ma., for 20 minutes. The symptomatic relief afforded the patient lasts 4 hours.

Generally speaking, the diathermy treatment of pneumonia does not shorten the course of the disease, but it has been made more tolerable and less fatal.

Caution must be exercised in the presence of hypotension, empyema and severe phases of the disease.

Uterosalpingography with Iodized Oil

There has been much literature of late in regard to the roentgen diagnostic value of transuterine injections of iodized oil, especially in tubal diseases.

In *Surg. Gynec. & Obstet.*, June, 1928, Dr. J. Jarcho, of New York, states that the consensus of opinion of those who have employed this method is that the procedure is entirely safe and most valuable for diagnostic purposes. Uterosalpingography gives a vivid picture of conditions within the female genital tract, its most valuable use being for the recognition of occlusion of the fallopian tubes and the localization of the site of the obstruction.

Jarcho states that there is a definite sphincteric action at the uterine cornu, sometimes called the tubal sphincter.

In addition to its diagnostic value, the injection of iodized oil may have definite therapeutic value in subacute and chronic conditions of the tubes; the slow liberation of iodine within the tubes has a therapeutic effect.

Jarcho describes a new type of Luer syringe, equipped with a manometer especially adapted to the transuterine injection of iodized oil. Ordinarily a pressure of 30 to 40 mm. is sufficient and 4 or 5 cc. of iodized oil fills the uterus and tubes without any of the material being forced into the peritoneal cavity. No unnecessary force should be used and the injection should be slow.

The Etiology of Carrion's Disease

A mysterious disease has existed in certain parts of South America for hundreds of years. The Spanish conquerors found it there and described it, early in the 16th century. A number of them contracted the disease and died from it. Because it was characterized by warty growths on the skin and occurred in Peru, they called it *Verruga Peruana* (Peruvian warts).

In 1870, when the trans-Andean railway was being built, many thousands of laborers died from another mysterious febrile disease which, because it occurred chiefly in the district between the cities of Lima and Oroya, was called **Oroya Fever.** The condition was characterized by the development of a profound anemia and by the fact that it attacked only persons who had *spent the night* in certain localities. This fever and the warty eruption were frequently found in the same individual.

In 1885, a medical student, *David Carrion*, innoculated himself with the juice from a Peruvian wart, developed Oroya fever and died. Since that heroic self-sacrifice, the malady has been called Carrion's disease.

In 1905 a Peruvian physician, Barton, discovered certain protozoal organisms, resembling bacteria, in the red blood corpuscles of patients suffering from Oroya fever; but these could not be grown in cultures, although the verrucous form of the disease was inoculated from man to monkey, in 1909. The organism is known as *Bartonella bacilliformis*.

Among the last efforts of the late Dr. Hideyo Noguchi, before he sailed for Africa to study yellow fever and meet his death, was an investigation of the whole subject of Oroya fever, under the auspices of the Rockefeller Institute and the Rockefeller Foundation, in collaboration with other workers.

The results of these epoch-making studies are announced in *Science* for Nov. 23, 1928, and briefly stated, they have fully confirmed *B. bacilliformis* as the causative organism and identified two varieties of noctural, blood-sucking gnats (*Phlebotomus verrucarum* and P. *noguchii*) as the insect carriers which had long been suspected.

This monumental piece of research work will add another laurel to the posthumous fame of Noguchi and will, no doubt, be classified in medical history along with the discovery of the mode of insect transmission of malaria and yellow fever.

Complete Removal of Benign Growths

Dr. D. P. MacGuire, New York, in *Med. Times*, May, 1928, reports 2 cases. In the first a small lump in the breast of a girl of 16 years proved to be adeno-sarcoma. In the second a small lump was removed from the back of the neck of a girl aged 19 years. No pathologic examination had been made. Later on this girl died from a malignant metastasis of this tumor.

The cases are reported to emphasize Bloodgood's advice as to the thorough and complete removal of all growth with a wide margin—a margin wide enough for any type of malignancy in the specific area. Better no operation at all than an incomplete operation, as a malignant growth in its earliest stages has no very definite symptoms.

Eye Injuries in General Practice

Cocaine is not suitable for surface anesthesia of the eye. Its disadvantages may be avoided by using **Butyn.**

After removing a foreign body from the eye sterilize the site, but do not put atropine into the eye unless an infection is already established.

When a foreign body has penetrated into the eye, sterilize the surface site and the conjunctival sac. For the internal infection, use a milk injection (10 cc. of boiled and then cooled raw

milk—Lactigen), given intramuscularly in the gluteal region. This is repeated after 24 hours; then a rest the next day; then renew the injections on the fourth and fifth and rest again on the sixth day.—Dr. H. Gradle, Chicago, in *Med. Herald*, Sept., 1928.

Dextrose and Alkalis in Acidosis

Drs. McK. Marriott and A. F. Hartmann, of St. Louis, in *J.A.M.A.*, Dec. 1, 1928, say that, since the chief factors operating to produce acidosis, in cases of marked diarrhea and anhydremia, are water loss and loss of base bicarbonate by the bowel, the correction of this type of acidosis should logically be by the administration of water and sodium bicarbonate. In vomiting or diarrhea, oral administration of either is not very effective; rectal administration is not satisfactory in young infants and is impossible when there is diarrhea. Water should, therefore, be administered parenterally. Until recently, physiologic salt or a similar solution was used for this purpose but had as an effect the secretion of bicarbonate in the urine.

In the light of the known facts, the administration of *dextrose* solution, rather than saline solution is indicated. This should be given in isotonic solution (5 percent), either intravenously or intraperitoneally. and its administration should be continued as long as anhydremia persists.

When the plasma bicarbonate is greatly reduced, sodium bicarbonate must also be given, in amounts sufficient to prevent the carbon dioxide content of the plasma from falling below 30 percent by volume.

In young infants it is of advantage to administer water, dextrose and alkali by the intraperitoneal route. This can be done, provided the reaction of the solution used is close to that of the blood (pH 7.4). A sodium bicarbonate solution may readily be brought to this reaction by bubbling carbon dioxide through it.

The lactic acid acidosis of acute nephritis can be relieved readily by any method that relieves convulsions and anoxemia. The administration of sedatives and of oxygen is therefore indicated.

Community Medical Centers

To counteract the pernicious influence of the hundreds of lay organizations, created for the purpose of giving medical care to people at a cost within their means, each County Medical Society should, itself, organize such an institution. This should also be a community medical center and provision should be made for all who need hospitalization or bed treatment. It is not to be a charitable institution. Public charges should be paid for by the county, but all others should pay at a rate in accordance with their economic standing. Such an institution should, not only be self-supporting, but should be able to pay reasonable compensation to the physicians who are doing the work.

Such an institution should be of great advantage, financially and otherwise, to the profession. —Dr. M. L. Harris, Chicago, in *J.A.M.A.*, Dec. 1, 1928.

Vitamins in Gastro-Intestinal Ulcer

It is many years since McCarrison expressed the view that vitamins B and C protected against gastro-intestinal tract infections and that a diet deficient in these vitamins predisposed to gastro-intestinal ulcers and other infectious disturbances.

In *J.A.M.A.*, Nov. 10, 1928, Dr. Seale Harris, Birmingham, Ala., stresses this etiology of ulcer in the United States. He states also the necessity of formulating the dietary treatment of gastro-intestinal ulcer patients (both before and after healing of the ulcer) on the basis of a proper supply and balance of the vitamins A, B and C, all of which are necessary in building up the patient's resistance to infection and helping to heal the ulcers and keep them healed.

No formal diet can be laid down to suit all individual cases, but from the very beginning fruit juices may be used so as to supply vitamin C. Physicians generally have not been arranging diets on the basis of their vitamin contents, but this, according to Dr. Harris, is the most important consideration and diets can be arranged to suit individual idiosyncrasies and still contain ample and balanced vitamin contents. It is almost as important that the diet in gastric and duodenal ulcers should be arranged to meet each individual patient's needs as it is in the daily menus for diabetic patients. Tables of generally suitable diets are given in the article.

Sulpharsphenamine in Fusospirillar (Vincent's) Infection of the Mouth

The effectiveness of arsphenamine therapy in fusospirillary infections has been demonstrated by a number of writers, but for certain reasons this therapeutic measure has been neglected.

In *Am. J. Dis. Child.*, Sept., 1928, Dr. H. K. Faber, of San Francisco, states that the introduction of sulpharsphenamine has removed some of the objections to the use of the older arsphenamines.

The author gives the histories of 10 cases in which the drug was satisfactorily employed in children. The dosage used is approximately 15 mg. of sulpharsphenamine per kilo of body weight, one large single dose being preferable, in the author's opinion, to smaller repeated doses. The intramuscular route is employed. A simple mouth wash may be used at the same time. The effects are marked and almost specific but they are not, at times, observed until the third or fourth day, and in the meantime visible improvement may not be observed.

NEW BOOKS

Peterson: Havelock Ellis

HAVELOCK ELLIS. *Philosopher of Love. By Houston Peterson. With Illustrations. Boston and New York: Houghton Mifflin Company.* 1928. *Price* $4.50.

There are probably few men now living who have made so profound an impression upon the thinking of genuinely thoughtful people as that produced by the writings of the shy philosopher, scientist and thoroughly civilized human being, Havelock Ellis. His monumental "Studies in the Psychology of Sex" have, for the first time, put many obscure matters on a sound and rational footing, and his essays are among the most delightful mental tonics which modern literature affords.

In this volume, Houston Peterson has given an intimate and sympathetic picture of the early struggles of this sensitive and magnificent soul, always old and wise beyond his years. His rearing by his mother, during the long absences of his seafaring father; his early association with art and artists; his voyage to Australia, in his adolescence, with all the physical and psychic vicissitudes which there changed his outlook toward the career he has followed; and all the unusual events of this most unusual life, are vividly and fascinatingly sketched.

The biographer has also told of his associations with such remarkable personages as James Hinton, Edward Carpenter, Olive Schreiner and Sigmund Freud, and shown how these people influenced the character and direction of Ellis's thought.

Many extracts from the philosopher's early diaries and letters are given, to show how certain trends of thinking arose and developed, and how precocious was his interest in weighty matters.

No physician or thoughful man of any other walk of life, who is interested in human beings and their ways, can afford to miss reading this enlightening study of one of the most complex and intriguing individualities who has come into this generation.

Sante: Lobar Pneumonia

LOBAR PNEUMONIA. A Roentgenological Study. (*A Correlation of Roentgen-Ray Findings with Clinical and Pathological Manifestations*). *By L. R. Sante, M.D., F.A.C.R., F.A.C.P., Associate Professor of Radiology, St. Louis University Medical School; Radiologist to the University Group of Hospitals (St. Mary's Hospital & Infirmary); etc. With a Foreword by James T. Case, M.D., F.A.C.S., Battle Creek, Mich. New York: Paul B. Hoeber, Inc.* 1928. *Price* $3.00.

The appearance of a monograph like this gives further evidence of the extension of specialization in x-ray diagnosis.

The author's roentgenologic investigation of lobar pneumonia is based on the study of 1,188 cases in the hospitals of St. Louis, during the past seven years. Roentgen-ray studies made during the course of the disease showed, not only certain characteristic peculiarities, but also that it was possible to detect the onset of complications before they give clinical symptoms.

The author believes that the roentgenogram is of distinct value, not only in the diagnosis, but in arriving at the prognosis of lobar pneumonia, as well as in other acute infections of the lung.

The book is well and clearly printed on good paper and the illustrations are very helpful in following the text.

Bing: Diagnosis of Affections of Brain

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. *A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Professor in the University of Basle. Translated from the Sixth German Edition by F. S. Arnold, B.A., M.B., B.Ch. (Oxon). Third Edition Revised and Enlarged. With One Hundred and Two Illustrations. St. Louis: The C. V. Mosby Company.* 1928. *Price* $6.00.

A good many general practitioners feel themselves helpless in the presence of a lesion of the central nervous system. The complex anatomy and physiopathology of the nervous system seems too difficult to be handled except through the medium of a specialist.

Yet, on consideration, there seems to be no sound reasons why every practitioner of medicine should not be conversant with the main facts connecting the nervous to the general and regional anatomic and physiologic systems and be able, for himself, to diagnose with a fair degree of accuracy the reciprocal effects of lesions of one system upon the other.

Dr. Bing's book was originally designed to aid physicians in familiarizing themselves with the general methods of recognizing and diagnosing affections of the brain and spinal cord. The descriptive text and illustrations are easy to follow and do not call for any special neurologic knowledge. At the same time, the specialist in neurology will find the book a handy vade mecum which correlates diagnostic data in a concise manner.

That the original German work has now run into its sixth edition testifies to the fact that

such a compendium was needed and is appreciated. The book under review is the third English edition translated by Dr. Arnold from the sixth German edition. All recent progress in the physiology and pathology of the brain and cord has been included in the revision so that the book is a complete epitome of all data necessary for practical clinical diagnosis.

Monrad-Krohn: Nervous System

THE CLINICAL EXAMINATION OF THE NERVOUS SYSTEM. *By G. H. Monrad-Krohn, M.D., F.R.C.P., Professor of Medicine in the Royal Frederick University, Oslo; Physician-in-Chief to the Neurologial Section of the State Hospital, Oslo; etc. With a Foreword by T. Grainger Stewart, M.D., F.R.C.P., Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square; etc. Fourth Edition. New York: Paul B. Hoeber, Inc.* 1928. *Price* $2.50.

This is an excellent short guide to the clinical examination of nervous and mental patients, and is designed especially to meet the needs of general practitioners and students.

The book offers a practical routine method which combines the modern tendency to associate neurology and psychiatry on the basis of a common origin. The clinical aspects are stressed and the author has taken pains to avoid abstruse speculative descriptions and to stick to the obvious findings and their interpretation. The reflexes are handled in a simple and elucidating manner.

Labat: Regional Anesthesia

REGIONAL ANESTHESIA. Its Technic and Clinical Application. *By Gaston Labat, M.D., Laureate of the Faculty of Sciences, University of Montpellier, France; Laureate of the Faculty of Medicine, University of Paris; Clinical Professor of Surgery, New York University and Bellevue Hospital Medical College; Formerly Special Lecturer on Regional Anesthesia, The Mayo Foundation, University of Minnesota; etc. With a Foreword by William J. Mayo, M.D. Second Edition, Revised. Illustrated. Philadelphia and London:* W. B. *Saunders Company.* 1928. *Price* $7.50.

There can be little doubt that, in most circumstances, if it can be completely and safely induced, regional anesthesia is preferable to general anesthesia. Post-anesthetic complications, even when slight, are always matters for concern and in abdominal major operations it is most desirable to avoid them if at all possible.

The great obstacles to the more extended use of regional anesthesia are the lack of technical skill in its application and the familiarity of most surgeons with operating under ether anesthesia, with consequent reluctance to try other methods. By technical skill is implied, not merely the correct method of injecting tissues, but a very accurate knowledge of the anatomy of the different regions and familiarity with possible morphologic abnormalities.

Dr. Labat's book is intended to supply students and surgeons with detailed knowledge of the subject, so far as it can be conveyed by written and illustrated descriptions. So far as these are concerned the book leaves nothing to be desired; the illustrations are very fine and should be of the greatest help; the text is by one who has had a wide practical experience of the subject treated.

But, as Dr. Labat correctly remarks, to be efficient in regional anesthesia it is necessary, above all, to have practical experience. The book will be of most value to those who are actually engaged in anesthetic work and to surgeons who desire to be familiar with the possibilities and limitations of regional anesthesia in major surgery.

This second edition includes all recent additions and revisions necessitated by the rapid advance of regional anesthesia, owing to its constant extension.

Roth: Cardiac Arrhythmias

CARDIAC ARRHYHMIAS. *Clinical Features and Mechanism of the Irregular Heart. By Irving R. Roth, M.D., Assistant in Medicine; Chief, Children's Cardiac Clinic, Mt. Sinai Hospital; Instructor in Post-Graduate Studies on Diseases of the Circulatory System conducted by Columbia University at Mt. Sinai Hospital, N. Y. Introduction by Emanuel Libman, M.D. Illustrated. New York: Paul B. Hoeber, Inc.* 1928 *Price* $7.50.

The author's aim in writing this book is to present in simple diagrammatic form the mechanism of the various types of cardiac irregularity, together with their extracardiac clinical signs.

The diagrams are based on the electrocardiographs, the complexities of which are thus so analyzed and simplified that the peculiarities of the different arrhythmias become at once apparent and understandable to the reader.

To us the book seems especially valuable because it tends to render instrumental findings subservient to clinical investigation. The cardiogram is an adjunct to the clinician's perspicacity in his bedside examination of the patient. The clinical symptom-complex which should accompany each type of arrhythmia diagram is clearly given, so that the clinician may verify it and be satisfied in regard to his diagnosis.

The book also is of value because, perhaps, too much attention has been given to auscultation and the perception of heart sounds, compared with the dynamics of the heart.

The book is divided into two main parts: The first deals with the normal heart and its rhythmic movements; the second deals with the various arrhythmias.

The book is excellently printed. It should be of value to clinicians and also to insurance medical examiners.

Medical Clinics of North America

THE MEDICAL CLINICS, OF NORTH AMERICA. *New York Number. Volume* 12, *Number* 3, *November,* 1928. *Philadelphia and London:* W. B. *Saunders Company. Issued serially, one number every other month. Per Clinic year, July,* 1928, *to May,* 1929: *Paper,* $12.00; *Cloth,* $16.00 *net.*

The November number of the above bimonthly serial is devoted to papers from New

York City clinics. There are 25 excellent contributions of which we would especially mention the following as being of the greatest interest to the general practitioner: Papers on the "Treatment of Nephritis", by Drs. Nellis B. Foster and H. Elwyn; "Tuberculosis in Children" by Dr. Béla Schick; "What is a Chronic Appendix", by Dr. H. H. Fellows; "Clinical Aspects of Chronic Arthritis". by Dr. B. H. Archer; "Clinical Course and Treatment of Pneumonia", by Dr. H. S. Baldwin; "Clinical Interpretation of Hematologic Diseases", by Drs. I. W. Held and A. A. Goldbloom; and "Diagnostic Methods in Disease of the Rectum and Colon", by Dr. F. M. Frankfeldt.

The papers in this serial are always excellent and profitable reading for the clinician, as they usually represent the most advanced scientific methods of diagnosis and treatment on the subjects discussed.

Kaye: Roentgenology

ROENTGENOLOGY. *Its Early History, Some Basic Physical Principles and the Protective Measures. By G. W. C. Kaye, O.B.E., M.A., D.Sc., F. Inst. P. With Forty-Nine Illustrations. New York: Paul B. Hoeber, Inc.* 1928. *Price* $2.00.

This is a sketchy little outline of the history of x-ray development which most roentgenologists would like to have on their bookshelves.

The various phases, ultimately culminating in the discovery, by Roentgen, of the rays and of their properties, are touched upon and illustrated. Also, the basic principles upon which the diagnostic and therapeutic use of the rays depend and the means of protection for those using them are given in greater detail.

Rockefeller Foundation: Problems of Medical Education

METHODS AND PROBLEMS OF MEDICAL EDUCATION. (*Tenth Series*). *New York: The Rockefeller Foundation, Division of Medical Education, 61 Broadway.* 1928. *Gratis on request.*

The Division of Medical Education of the Rockefeller Foundation collects information from all over the world regarding the methods pursued in the practical teaching of medical science. This includes arrangements of buildings and their internal economy in the distribution of space to various units, equipment, personnel and the like.

Information of this kind is of vital importance to all those in any way interested in the planning of new buildings or the reconstruction or improvement of old buildings intended for instruction or research in medical science.

The present volume gives copies of the constructional plans, photographs of interiors and full textual descriptions by those who have been actually engaged in carrying out projects of this kind all over the world.

The value and convenience of having this material collated in one volume for the information of those concerned cannot be over-estimated.

Incidentally, on looking over this volume one gets the impression that arrangements for autopsical investigation and postmortem work generally are better in Europe than in the United States.

Brown: A Sleepwalker

EDGAR HUNTLY, *Or Memoirs of a Sleep-Walker. By Charles Brockden Brown. Edited with an Introduction by David Lee Clark, Adjunct Professor of English in the University of Texas. Modern readers series. New York: The Macmillan Company.* 1928. *Price: Half Leather* $1.25; *Cloth* $0.80.

It is sometimes said that American literature began with Charles Brockden Brown, because he was the first (about 1800) to write of American people, moving in American settings. He broke away from the literary traditions of Europe.

This recent reprint of an old tale is of interest for three reasons: It is one of Brown's earlier works; the diction and style give one some of the flavor of the stilted formality which characterized the early days in the United States; and many of the main incidents hinge upon the fact that the hero and one of the other characters were somnambulists.

The story is not too exciting, but the reading of a book like this is rather a relief from the "jazzy" stuff, in magazine form and between covers, which is the chief literary pabulum of many people.

Besant: Problems of Life

SOME PROBLEMS OF LIFE. *By Annie Besant, Theosophical Pub. House, Krotona, Hollywood, Calif. (Through The Theosophical Press, Wheaton, Ill.) Price* $1.00.

The whole toil and struggle of life consists in the solving of problems, of one sort or another. If we know the answer to the problem, even though we may continue to labor, life is no longer a dark and dangerous pilgrimage, but a joyous progress toward a certain goal.

In this sane and helpful little volume a key is placed in our hands which, if we use it, will help in the solution of some of our greatest difficulties. No one can do more than that for, in the last analysis, each man must do his own solving for himself.

Four types of problems are here considered: Those of ethics, sociology, religion and the inner life. One of the first keys is given in the Foreword: "Men are usually right in that which they affirm; wrong in that which they deny."

The key to the problems of ethics is the fact that "good" and "evil" are strictly relative terms, and the goodness or badness of any act depends wholly upon the person who performs it. What may be good for you may be bad for me, and *vice versa*. In general, lifting forces are right and down-dragging forces are wrong.

The keys to the problems of sociology are the facts of universal unity (no man can harm any other without hurting himself) and the evolving condition of all human beings, so that no two individuals can possibly be exactly equal. Once we recognize the universality of inequality of powers and endownments, we are on the way

to treat the little children of the race (the savages, whether white or black) like *children*, and not like perverse and deliberate malefactors

The key to the problems of religion lies in the certainty that every teaching (no matter how crude, ridiculous or barbarous it may now seem to us) which has helped men to rise to a plane of life (however low) which is higher than that they formerly occupied, contains seeds of eternal truth which are worth seeking. The five great problems of religion: The nature of God, the existence of the soul, freewill and necessity, the nature and purpose of prayer, and the atonement, are here dealt with in a clear and rational manner.

The difficulties of the inner life are robbed of their distressing character by realizing that all who have made spiritual progress have had to travel the same road; and that the periods of alternating exaltation and depression, which we all experience, more or less, are, not terrible and unique experiences, but the common lot—part of the cyclic or rhythmic movement of the entire universe.

The man who encounters no problems in living does not need such a book as this (he is a savage); but those who are daily striving toward an ideal of some sort (and frequently stumbling or falling, like most of us) will find here the kind of help which will appeal to the reason as being something entirely practical and workable.

Index to Osler's Modern Medicine

MODERN MEDICINE. *Its Theory and Practice. In Orginal Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S.,; Late Regius Professor of Medicine in Oxford University, England; etc. Third Edition, Thoroughly Revised. Re-Edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; etc. Assisted by Elmer H. Funk, M.D. General Index. Philadelphia: Lea & Febiger.* 1928. *Price* $1.00.

This handy index to the set of volumes of Osler's Modern Medicine is a necessary supplement to it and a valuable desk reference book.

Pardee: Electrocardiogram

CLINICAL ASPECTS OF THE ELECTROCARDIOGRAM. *A Manual for Physicians and Students. By Harold E. B. Pardee, M. D., Assistant Professor of Clinical Medicine, Cornell University Medical School; etc. With Sixty Illustrations. Second Edition, Revised. New York: Paul B. Hoeber, Inc.* 1928. *Price* $5.50.

The electrocardiogram has almost entirely superseded other clinical methods of investigating abnormal conditions in the heart's functioning.

From the examination and comparison of a large number of cardiograms of various abnormal conditions a more or less standardized cardiogram has been arrived at for these conditions. The book presents a number of such cardiograms and the points of special interest in them from the clinical viewpoint are explained in the text. Where amplification of the peculiarities of cardiograms is required this is furnished in the form of special diagrams.

A book of this kind is essential to those who use the electro-cardiograph. For those who do not and may wish to use it the author has supplied chapters explaining the mechanism and working of the machine.

Advantage has been taken in this second edition to make any revisions necessitated by recent advances in electrocardiography.

Von Albertini: Giant-Cell Tumors

GUTARTIGE RIESENZELLGESCHWÜLSTE. *Eine vergleichend histologische Untersuchung. Von Privatdozent Dr. A. von Albertini. Mit einem Vorwort von Prof. Dr. H. v. Meyenburg. Mit 24 Abbildungen, davon 9 farbig auf 1 Tafel. Leipzig: George Thieme.* 1928. *Price* 9 M.

A differential histologic study of benign giant-cell tumors, especially of the bones, tendons and tendon-sheaths and skin. There is also a chapter on pathogenesis. There are some fine colored histologic section illustrations. A very useful monograph for pathologists.

Abderhalden: Biologic Methods

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. *Geh. Med.-Rat. Prof. Dr. Emil Abderhalden. Abt. IV, Angewandte chemische und physikalische Methoden, Teil 6, 2. Hälfte, Heft 3. Gertrud Woker-Bern: Methoden zum Studium de Wirkung der einzelnen Verdauungssäfte. Berlin & Wien: Urban & Schwarzenberg.* 1928 *Price Mk.* 24.

This is Section 6, Part 2, third division of the fourth volume of Abderhalden's monumental work. It is a monograph by Dr. Gertrud Woker on the functions of the various digestive fluids.

McGuigan: Pharmacology and Therapeutics

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. *By Hugh Alister McGuigan, Ph.D., M.D., Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. Illustrated. Philadelphia and London: W. B. Saunders Company.* 1928. *Price* $6.00.

The aim of the author in writing this new textbook of pharmacology and therapeutics is, not alone to present clearly the important facts of pharmacology and the basis for these facts, but also to connect physiology, biochemistry and pharmacology.

The book differs from other textbooks in that the author leans especially on the evidence supplied by physiologic experimentation to support the empiric use of drugs clinically. On this account there is a certain amount of conservatism.

In a general way one gets the impression that a great many drugs which are of much clinical value are rather summarily dealt with in regard to their therapeutic effects.

The rapid advances in scientific physiologic therapeutics makes a new book at the present time almost old when issued. We notice that while the author mentions cholesterol and its therapeutic uses he does not allude to ergosterol and its very important property of becoming the best known source of vitamin D when irradiated by ultraviolet rays. This subject has occupied a leading place in the experimental and clinical pharmacology of rickets and tetany during the past year or more.

The book seems to be one that will be of greater value to the scientific pharmacologist than to the students and practitioners of clinical medicine.

Classification and Diagnosis of Heart Diseases

CRITERIA FOR THE CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE. *By A Committee, Harold E. B. Pardee, M.D., Chairman, Appointed by the Heart Committee of the New York Tuberculosis and Health Association, Inc. Arranged in Conformity with the Nomenclature for Cardiac Diagnosis Approved by the American Heart Association. New York: Paul B. Hoeber, Inc.* 1928. *Price* $1.50.

The criteria for the classification and diagnosis of heart disease have been compiled by a special committee of the Heart Committee of the New York Tuberculosis and Health Association to meet the need for standardization in the classification and diagnosis of heart disease—a need long recognized by medical schools, hospitals, health boards, clinics, medical specialists and all organizations dealing with cardiac diseases.

The increasing mortality from cardiac diseases, both essential and those associated with the socalled degenerative diseases, makes such a classification more especially necessary. The nomenclature adopted in this book is that worked out by the American Heart Association.

The criteria are intended to furnish a common ground in the classifiation and diagnosis of heart diseases; to facilitate the making of records which will aid the clinician in making more accurate diagnoses; and to make such records accessible and valuable to other clinicians, by establishing a common language of classification and nomenclature.

Lake: Joyous Verses

AN APOSTLE OF JOY. *By George Burt Lake. Highwood, Ill.: Northshore Publishers.* 1928. *Price* $1.25.

In his introduction to "Songs from the Stepladder," George Steele Seymour has the following to say: "I do not believe that poetry is a 'cause' any more than I believe that mathematics or crossword puzzles are 'causes'. I am not groping for something strange that is going to startle the world and which reviewers will at once invest with a pseudo-meaning by inventing a new slang word for it. I believe that poetry is a sort of advanced amusement. It is an entertaining pastime in which graces of personality find their way into words."

No more perfect example of this view of poetry could be found than this volume of poems by George Burt Lake. Here is no suggestion of "causes" nor didacticism nor propaganda, but a charming collection in which the graces of an unusual personality have found their way most happily into words.

I think we are wrong in estimating men as we commonly do by their life's work. If we could study their life's play we would know more as to the kind of men they really were. It is not the thing we are compelled to do, but the thing we *elect* to do that shows the true nature of us. The sincere and important work which Doctor Lake has done in medicine and in medical literature would sell in the open market for more than a volume of poems, but the former only means he does a man's job well, while the latter gives many glimpses into the inside workings of a versatile mind. These glimpses are of a wide range of moods and experiences. They tell of more than moods. They tell of painstaking and successful effort to express these moods in adequate and worthy ways. For these poems are not the work of the ambitious rhymester who so often "starts something he can't finish." They show a high degree of technical skill and a true sense of the authentic. His critical judgment is so true that even in the socalled free verse forms he is not betrayed into the usual banalities.

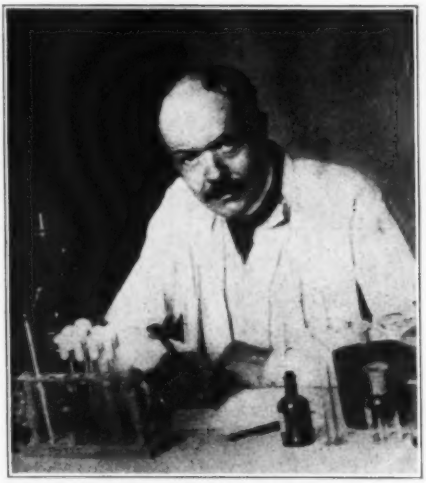
If the sonnet form is the severest test of true artistry we must give Doctor Lake a high mark, for here he is at his best. He has, rightly I think, chosen for the opening poem "The Joy of God," a sonnet of great power and beauty. Another, called "Serenade," is more intimately beautiful. The highest note is reached in "A Prayer" in a simpler verse form, well suited to the nobility of the theme. There are some fine quatrains and two dainty triolets—altogether a wide keyboard for unprofessional hands to play so skillfully. Lovers of true poetry are thankful that this writer has

"Known troubled days when fate seemed rough, and bitter searching hours that wring the heart," for they have indeed served

"To make a poet who, though torn apart
Can lift a song beneath life's bludgeonings."

—BURTON HASELTINE.

MEDICAL NEWS



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Nobel Prize to Dr. Nicolle

The Nobel Prize for Medicine for 1928, has been awarded to Dr. Charles Nicolle, for 25 years director of the Pasteur Institute of Tunis, for his work on typhus fever.

It was Dr. Nicolle who first produced typhus in a monkey by injecting the blood of a patient; and, with his associates, he made other interesting investigations, including the preparation of an immune serum from horses and asses.

Worse than the Sheppard-Towner Act

If nothing is done about it, the Sheppard-Towner Act will die a natural death at the end of next June—a demise highly desired by all thoughtful people who have really studied the subject.

A new bill has been introduced in Congress, embodying all the undesirable features of this notorious enactment and a number of brand new ones which are even worse.

Every physician who has the best interests of his community and his profession at heart, and who is tired of official snoopers and keyhole-peepers will write to his senators and representatives demanding that they use their influence for the defeat of *H.R.* 14070, introduced by Rep. Newton, of Minnesota.

Opening in Montana

There is no physician in Nashua, Montana, and one is needed.

Anyone who is interested can obtain full particulars from A. Torkelson, Nashua Pharmacy, Nashua, Mont.

Neglect of Vaccination

"Nearly 34,000 cases of smallpox (more than in any other reporting country, except India) in the United States, in the calendar year 1927, testify to the neglect of the people to use vaccination—the known means of preventing the disease."—SURGEON GENERAL CUMMING, U.S.P.H.S.

The Electric Light Cabinet Bath An American Invention

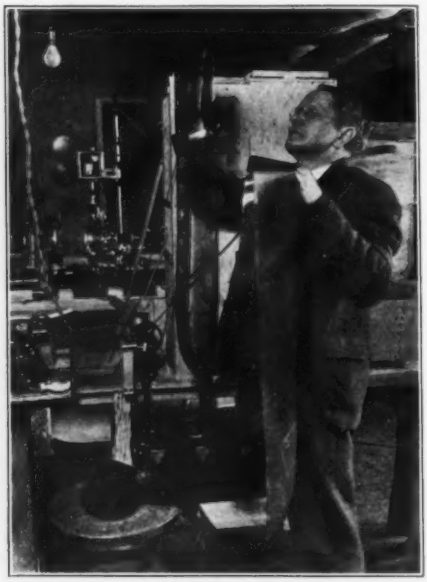
We sometimes get the impression that most of the apparatus used in physical therapy came to us from Europe.

The electric light cabinet bath is a notable exception. It was invented by Dr. John Harvey Kellogg, of Battle Creek, Mich., and was first shown at the World's Fair, Chicago, 1893. Some years later, a German model was imported into this country as a novelty from Europe.

Ephedrine Relieves Famine Sufferers

The popularity of ephedrine in America and Europe is helping to relieve the sufferings of many unfortunates in China. The relief work consists in engaging the villagers in the Shansi district to pick and

bring in the herb, *ma huang* (from which ephedrine is extracted), which grows wild by the roadside and in the mountains, and paying them for it at a price slightly above that offered by the small local market. In this way 200 tons of the drug have been collected and hundreds of persons have been rendered self-supporting.



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The First X-ray Moving Picture

The first x-ray "moving" picture (though there is no apparatus to show it as a movie) has been made recently in the laboratory of A. C. Pillsbury, of Berkley, Calif. The film is 200 feet long and consists of 800, 3x4 inch pictures of a rosebud bursting into bloom. The rose was placed in front of the camera and, by the complicated mechanism here shown, x-rays were permitted to pass through it for a brief period, at intervals of 5 minutes, during 72 hours

Air Line for Patients

The Universal Air Lines has inaugurated an air passenger service from Chicago to Rochester, Minn., for the convenience of those who are going to the Mayo Clinic in a hurry. Connection is made with the planes from Cleveland, to accommodate passengers from the East.

Bulletin of Medical Economics

We have just received the first issue of *The Bulletin of Medical Economics*, a sightly little journal devoted to the business side of medical practice. Interested persons can find out more about it by addressing the magazine at 22 West 96th St., New York City.

Dietetic Number

The November issue of our esteemed contemporary, *American Medicine*, was devoted entirely to Food, Nutrition and Dietetics. It will well repay careful study.

United States Civil Service Examinations

The United States Civil Service Commission announces the following open competitive examinations:

Medical Adviser

Assistant Medical Adviser

Applications must be on file with the Civil Service Commission at Washington, D. C., not later than December 29, 1928.

The examinations are to fill vacancies in the Food, Drug, and Insecticide Administration, Department of Agriculture, for duty in Washington, D. C., or in the field.

The entrance salaries range from $3,800 to $4,400 a year for medical adviser, and from $2,600 to $3,100 a year for assistant medical adviser. Higher-salaried positions are filled through promotion.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

M- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

M- 3 Storm Binder and Abdominal Supporter, 4-page folder by Dr. Katherine L. Storm.

M- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

M- 6 The Journal of Organotherapy. 95-page booklet published monthly. G. W. Carnrick Company.

M- 7 The Cure of Cystitis, Pyelitis and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmacal Co.

M- 9 Hang This Up — It Tells How to Make Percentage Solutions. Sharp and Dohme.

M- 17 An Index of Treatment. Burnham Soluble Iodine Co.

M- 20 A Survey of Focal Infection. Fellows Medical Co.

M- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

M- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

M- 49 The Calcreose Detail Man. Maltbie Chemical Co.

M- 50 Outwitting Constipation. Standard Oil Co.

M- 52 Cre-So-Mul. First Texas Chemical Mfg. Co.

M- 56 Regaining Health. How Science Can Guide You! The Fleischmann Company.

M- 58 The Pharmacology of Cod Liver Oil, Smith, Kline & French Co.

M- 67 The Electro-Pathology of Local Inflammation. The Dionol Company.

M- 78 Nourishment for Adults and Children in Health or Illness. Mellin's Food Co.

M- 82 Service Suggestions. November-December, 1928. Victor X-Ray Corp.

M- 85 Ultraviolet for Health. Hanovia Chem. & Mfg. Co.

M- 87 Journal of Intravenous Therapy. Loeser Laboratory.

M- 93 Britesun Therapeutic Booklet. Britesun, Inc.

M- 95 Everything for the Sick—Lindsay Laboratories.

M-103 The Electron, December, 1928. McIntosh Electrical Corporation.

M-112 Atophan after more than Fifteen Years of ever expanding use, etc. Schering & Glatz.

M-113 Forcep Deliveries and Versions. Battle & Co.

M-114 Infra Red Therapy. Britesun, Inc.

M-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

M-120 Building Resistance. William R. Warner & Co., Ltd.

M-122 Cardiazol, and Emergency Stimulant and Sustaining agent for the heart. E. Bilhuber, Inc.

M-139 How to Save Children from Goiter. Morton Salt Company.

M-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

M-169 The Quartz Lamp, Dec. 15, 1928. Hanovia Chemical & Mfg. Co.

M-176 The Hormone, October — 24 pages and cover, published bimonthly. The Harrower Laboratory.

M-186 Detoxification in the Treatment of Infection. Wm. S. Merrell & Co.

M-189 High Blood Pressure — Treatment with Theocalcin. E. Bilhuber, Inc.

M-194 Fracture Book — 1928 Edition. DePuy Mfg. Co.

M-195 Booklet on Lacto-Dextrin. Battle Creek Food Co.

M-196 "Facts Worth Knowing". Intravenous Products Co. of America, Inc.

M-197 Bulletin. Illinois Post Graduate Medical School, Inc.

M-198 Book and Portfolio of Letters in Evidence. Philo Burt Co.

M-199 Activin in Non Specific Protein Therapy. Ernst Bischoff Co.

M-200 Throughout the Span—Middle Age —Agarol. Wm. R. Warner & Co. Inc.

M-204 News and Views from French Lick. French Lick Springs Hotel.

M-207 The Treatment of Pneumonia with Optochin Base. Merck & Co.

M-209 Liquid Surgical Cast and Adhesive Solution, Aseptic and Water Soluble. The Liquid Cast Co., Inc.

M-211 The Etiology and Treatment of Hay Fever—Hay Fever Antigens. The National Drug Co.

M-212 Battle Creek Physical Therapy Equipment, General Catalog. Sanitarium Equipment Co.

M-213 X-Ray Supplies, "The Victor Line". Victor X-Ray Corporation.

M-215 Victor Stabilized Fluoroscopic and Radiographic Unit. Victor X-Ray Corporation.

M-216 Victor Air-Cooled Quartz Lamp, Model "B". Victor X-Ray Corporation.

M-217 Focal Infection. Battle & Co.

M-218 Eupinol, A distillate Produced at a special temperature from the resinous wood of Pinus Palustris. The Tilden Company.

M-219 The Intravenous Administration of Strontium. Loeser Laboratory.

F-220 A brief Physiotherapy Manual, Second Edition, 1928. McIntosh Electrical Corporation.

M-221 From the Juice of the Poppy, A Picturesque Story. The Hoffman-La Roche Chemical Works.

M-222 Autumn Leaves — Guiatonic. Wm. R. Warner & Co., Inc.

M-224 Diathermy in Pneumonia. Victor X-Ray Corporation.

M-225 Physiotherapy in Nervous and Mental Diseases. Victor X-Ray Corporation.

M-226 Nerve and Muscle Regeneration. McIntosh Electrical Corporation.

M-227 The Romance of Digitalis. The Hoffmann-La Roche Chemical Works, Inc.

M-228 Ye Olden Day Cough Physic, The Tale of a Drug which Columbus gave to Isabella. The Hoffmann-La Roche Chemical Works, Inc.

M-229 Prenatal Care. Reed & Carnrick.

M-230 Thiate, Merrell. Wm. S. Merrell Company.

M-231 The Action and Use of Castor Oil. The Wm. S. Merrell Company.

M-232 Pectoral Balsam, Merrell. Wm. S. Merrell Company.

M-233 Gland Tidings. G. W. Carnrick Co.

M-234 Advertising Supplement, an Illustrated Review of Items of Current Interest in the Victor Supply Line. Victor X-Ray Corporation.

M-235 A Real Problem Solved (Clinical Medicine). The Health Cigar Co.

M-236 Throughout the Span, Advanced Age. William R. Warner & Co., Ltd.

M-237 Bedtime Nourishment. Mellin's Food Co.

M-238 A Trade Note for the Prescription Counter. E. Bilhuber, Inc.

M-239 Battle Creek Solar Arc Lamp. Sanitarium Equipment Company.

M-240 Injection Method of Treating Varicose Veins with Sodium Salicylate. Loeser Laboratory.

M-241 Loeser's Intravenous Solution of Gentian Violet. Loeser Laboratory.

M-242 Announcing a New Preparation, Stronsalin (Keysall). Keysall Pharmacal Company.

M-243 Nichols Nasal Syphon, Negative Pressure. Nichols Nasal Syphon, Inc.